QST CANADA

p. 6

Devoted entirely to Canadian Amateur Radio
Entièrement consacré à la radio amateur canadienne

CRRL Minutes

Oscamp

It's RAC!

$2.50
August
août
1991

Canada Post Postes Canada
Postage paid Port payé
Third class Troisième classe
10596

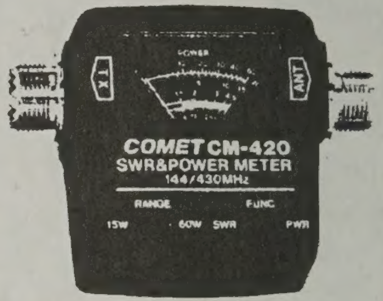
★ Produits Electroniques ★

ELKEL Ltee

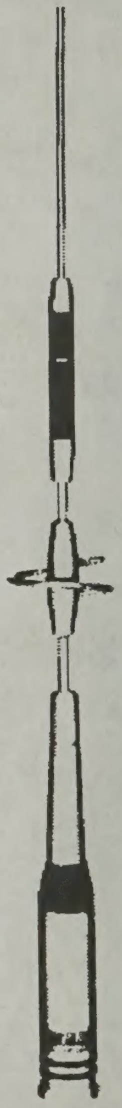
COMET
ANTENNAS FOR THE PROFESSIONAL AMATEUR

NCG CO.

COMET PRESTIGE



GPX-2010	146 / 446 MHz BASE RPTR. 9.5 / 13.2 DBd	$ 339.00
CPR-5800	146 / 446 MHz MOBILE 5.0 / 7.6 DBd	89.00
CPR-5600	146 / 446 MHz MOBILE 4.3 / 7.0 DBd	86.00
CPR-5400	146 / 446 MHz MOBILE 3.5 / 6.0 DBd	59.00
CA -2X4Z	146 / 446 MHz BASE RPTR. 8.2 / 11.5 DBd	209.00
CA-2XAMAX	146 / 446 MHz BASE 8.5 / 11.9 DBd	229.00
CA-2X4FX	146 / 446 MHz BASE 4.5 / 7.2 DBd	129.00
CA-2X4MB	146 / 446 MHz MOBILE 4.5 / 7.0 DBd	79.00
CA-2X4SR	146 / 446 MHz MOBILE 3.8 / 6.2 DBd	59.00
CHL-23J	146 / 446 MHz MOBILE 2.15 / 3.8 DBd	33.00
CA-ABC 23	146 MHz BASE / RPTR. ALUMINIUM 7.8 DBd	139.00
CA-ABC 21	146 MHz BASE CONDO 3.4 DBd	47.00
CA-F72GF	440/470 MHz BASE 6.0 DBd	129.00
CA-1243Z	446 / 1200 MHz BASE / RPTR. 9.4 / 12.8 DBd	159.00
CA-1243E	446 / 1200 MHz BASE RPTR. 6.0 / 8.4 DBd	89.00
CX-725	50 / 146 / 446 MHz BASE / RPTR. 2.15 / 6.2 / 8.4 DBd	149.00
CX-702	50 / 146 / 446 MHz MOBILE 2.15 / 6.0 / 8.4 DBd	99.00
CX-902	146 / 446 / 1200 MHz BASE / RPTR. 6.5 / 9 / 9 DBd	159.00
CX-801	146 / 446 / 1200 MHz MOBILE 3.6 / 8 / 9.6 DBd	89.00
CA-1221S	1200 MHz BASE / RPTR. 14.8 DBi	159.00
CA-350DB	28 / 50 MHz BASE 2.15 / 6.5 DBi	259.00
CDS-180	28-1300 MHz TX ON 28-50-146-446-1200 MHz	179.00
CFX-4310C	146 / 446 / 900-1200 MHz (KENWOOD 941A)	83.00
CF-416	146 / 446 MHz DUPLEXER w / COAX	61.00
CF-413	446 / 1200 MHz DUPLEXER	67.00
CF-520	50 / 140 / 470 MHz DUPLEXER	47.00
CFX-514	HF / 146 / 446 MHz	63.00



JULY / 1991

Produits Electroniques ELKEL Ltee
2435 blvd. des Recollets Trois-Rivieres P. Que. G8Z 4G1
Tel. (819)378-5457 Fax. (819)378-0269
mardi-mercredi (9h-17h) jeudi-vendredi (9h-21h) samedi (10h-15h)
prix sujet a changement sans preavis / price subject to change without notice
DEPOSITAIRE CANADIEN AUTORISE / CANADIAN AUTHORIZED DEALER

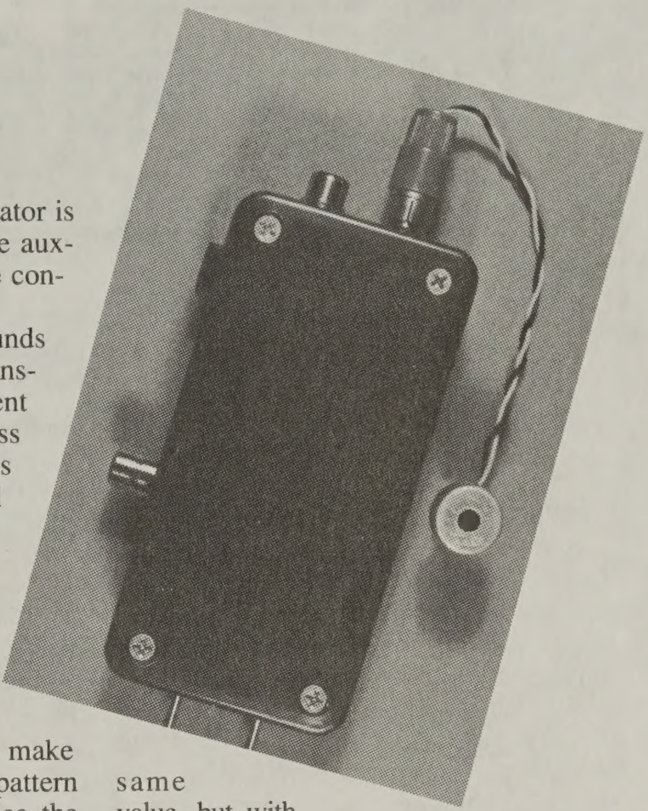
ELKEL

QST CANADA DEVOTED ENTIRELY TO CANADIAN AMATEUR RADIO

The Oscamp

Build this easy circuit on Monday night… and then have fun the rest of the week exploring its uses.

By T C "Ced" Tanner, VE3BBI
548 Upper Queens St
London, ON N6C 3T9



Oscillators are always fascinating to work with, but sometimes the output is weak and needs a little boost. This small board has an LM567 audio *osc*illator coupled to an LM386 operational *amp*lifier (commonly called an op-amp) which gives it enough power to drive a speaker. Now you know how I arrived at the name of this unit: *Oscamp*!

Circuit

The oscillator circuit is somewhat unique. The LM567 chip is usually used as a tone decoder—more on that later. If the oscillator is built according to the diagram in Fig 2, using tantalum capacitors in the three places marked *T*, it will be quite stable and adjustable over a range of about one octave. By changing the resistor, Rx, the pitch can be varied quite widely. The smaller the resistance of Rx, the higher the frequency produced.

I have provided an auxiliary input so the amplifier can be used by itself, but then the oscillator must be turned off by opening SW2. A 4–16-Ω speaker may be plugged into one of the two output jacks.

Two LEDs indicate the status of the unit. The green one indicates that power is on and the red one, that the oscillator is working. Both the oscillator and the auxiliary inputs have their own volume controls on the board.

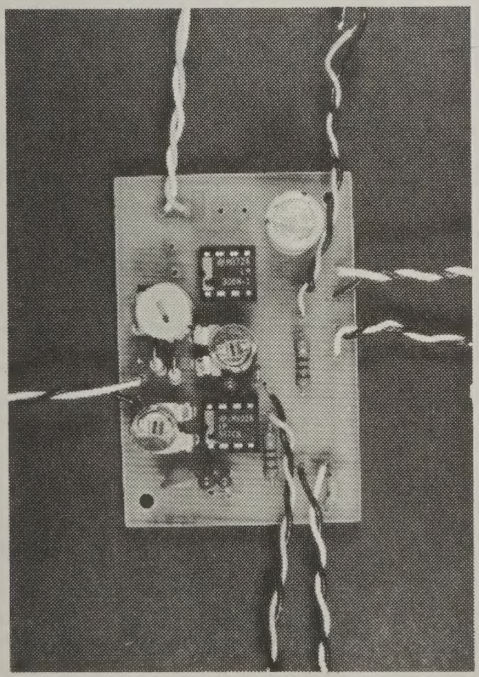
If the note from the speaker sounds harsh, you may be using a wall transformer power supply with insufficient filtering. A 1000-µf capacitor across the power leads should clear things up. A 9-volt battery makes an ideal source of power—no filtering is required!

All the parts including the chips are available from Radio Shack. Parts are not expensive. You might choose to build your Oscamp on perfboard. Get a piece at least 2" x 3". You can make your own circuit board using the pattern in Fig 3, or you can order one. See the note at the end of the article.

Construction Notes

Collect all the components required, including a couple of eight-pin IC sockets. Place the parts on your board as shown in Fig 4. Check that there is enough room for everything. If a particular part seems too big, try another of the same value, but with a lower voltage rating. Resistors should be 1/4-watt size if possible. If you get a 220-µf capacitor rated at 10 volts, it will be the right size.

A small plastic box makes a good enclosure. You can mount the circuit board flat on the bottom. This will leave lots of room for the components above. You may arrange the switches and jacks



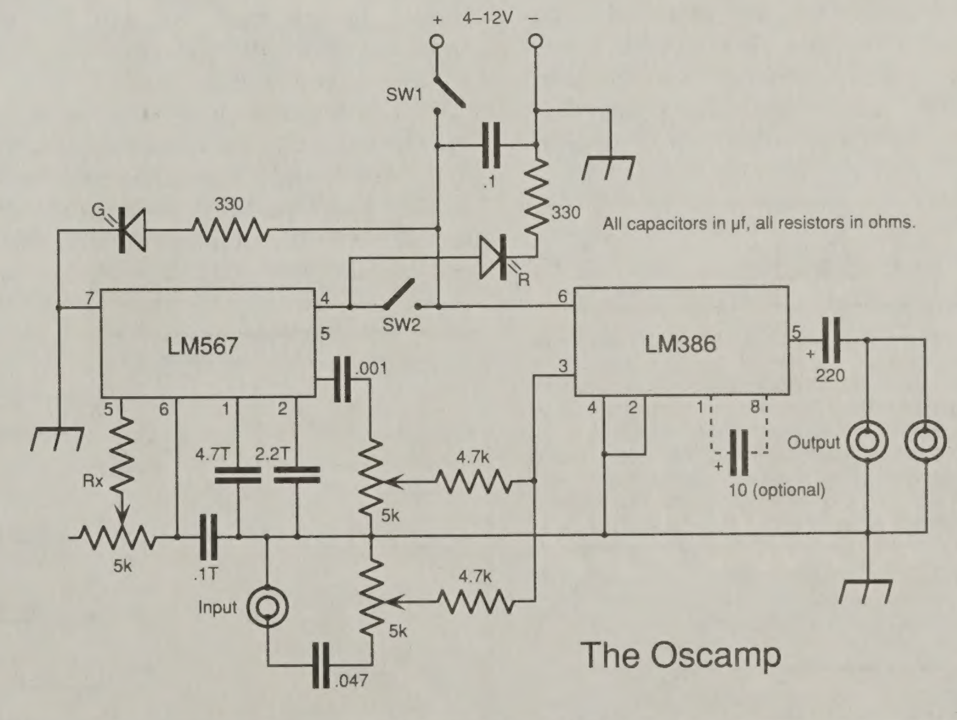
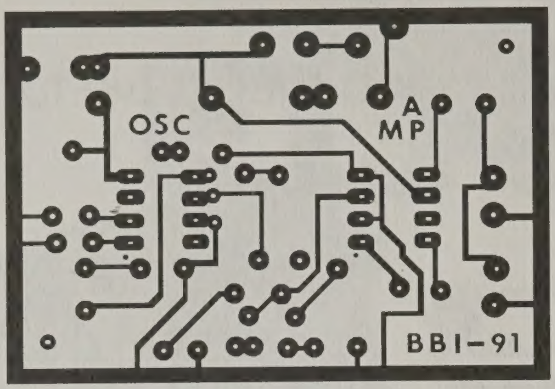


Fig 1—The Oscamp. Fig 2—Schematic diagram. Note two sets of leads to the LM567 pin 5. The LM567 is the oscillator, the LM386 the amp.



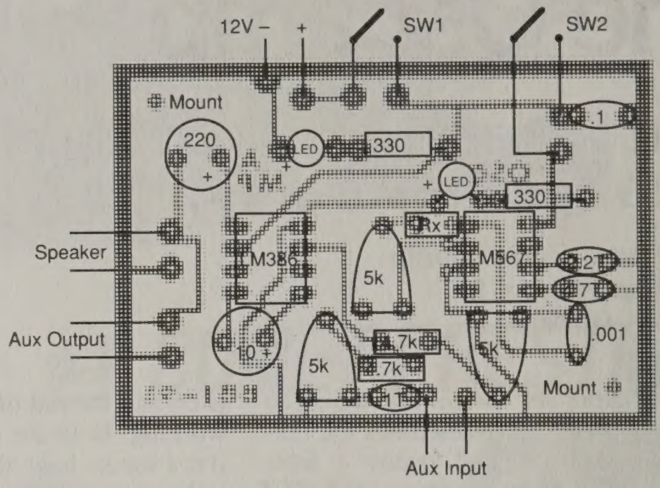


Fig 3 (left)—Circuit board template, size: 100%. Circuit boards are available from the author. Fig 4 (right)—Parts placement, foil side down.

around the box in any way you like, perhaps keeping leads as short as possible.

Testing and Experimenting

It really is a good idea to test your Oscamp before bolting it into the box. Now the fun begins! I hope you have a "solder sucker" to make changes, because that is probably what you are going to do!

We will assume you have built Oscamp leaving out the 10-µf capacitor between pins 1 and 8 of the LM386. We will also assume that your Oscamp worked. Now add the 10-µf capacitor and try it again. Too loud? Distorted? Perhaps there is another way to increase the volume. Notice that the signal from the oscillator at pin 5 has to pass through a 0.001-µf capacitor. Try various sizes of capacitors here and listen to what happens to the note from the oscillator.

Now feed a low-level signal, perhaps from a Walkman® or a tape deck, into the input jack. Maybe the 0.047-µf capacitor needs changing. You might try substituting a volume control of higher value and see what that does. Try a 47-k potentiometer. Don't change the tantalum capacitors, but anything else is fair game. Try for the most volume with a clean undistorted signal and then leave it like that. Maybe if you built another amplifier you could make it stereo!

Ham-Ads

Advertisements must pertain to Amateur Radio. For individuals or firms offering products or services for sale, the rate is $0.50 a word. This is reduced to $0.25 per word for those seeking to dispose of or acquire personal station equipment. Telephone numbers count as one word. No charge for postal codes. Unless specified, a Ham-Ad will appear in the next available issue of *QST Canada*. Send Ham-Ads to CRRL, Box 56, Arva, ON N0M 1C0.

UNWANTED: Unwanted ancient modulation (AM) equipment and components welcomed here. Eddy Swynar, VE3CUI, 3773 Concession Road 3, R R 8, Newcastle, ON L1B 1L9.

FOR SALE: Eimac 8877 (3CX1500A7) linear amplifier tube. New—NEVER USED. $500. Larry Horlick, VE8HL, Box 1082, Iqaluit, NT X0A 0H0, Tel (819) 979-6981.

Uses for the Oscamp

The Oscamp has many practical uses:

1. Audio tone for testing rigs, amps, etc.
2. With the oscillator turned off, the amplifier portion may be used to increase the volume of any low-level audio signal.
3. Use the Oscamp to trigger a tone decoder. It can be tuned to any one of 16 tones produced by a conventional Touch-tone® pad.
4. Insert a key in the speaker line and use as a code practice oscillator .
5. The Oscamp will drive a piezo transducer on all but the lowest frequencies. It actually reproduces voice quite well.
6. Education—yours and others'. Makes a fun club project.

Here's the "—more on that later"

Earlier in this article, I promised you something on using Oscamp as a tone decoder. In this case, we will be concerned only with the LM567. The amplifier section will not used.

We're going to turn on a coffee maker. First connect a 2.2-k resistor from pin 4 to pin 8. Now introduce an audio tone to the LM567. The tone must go to pin 3 and ground. Tune the oscillator slowly. When the incoming tone and the oscillator tone are at the same frequency, pin 8 will go from high to low. You can measure this with a VOM set to the 0–10-volt range. This negative voltage at pin 8 must be inverted (changed to positive) to trigger a silicon-controlled rectifier (SCR). You may not be able to get an SCR at Radio Shack, but the 2N5061 is quite common and should be available at other parts stores. Connected as shown in Fig 5, the SCR operates the relay that turns on the coffee maker. The relay should be one that closes smartly with your supply voltage. Relay contacts should be heavy enough to carry the current that will be drawn by your coffee maker.

Now hook the audio output of your 2-metre rig to pin 3 and ground. Then when you're out and about, just send the proper tone to your rig, and your hot coffee will be waiting for you when you get home.

Conclusion

If you have been hesitant to tackle a solid-state project, this is a good one to try. It really is fun to try different components and listen to the results. You'll learn lots in the process. Happy soldering!

Note: Undrilled circuit boards for the Oscamp may be obtained from the author (see name and address in byline) for $5.00 plus $0.40 postage. Drilling is $1.50 extra. All prices GST included. ■

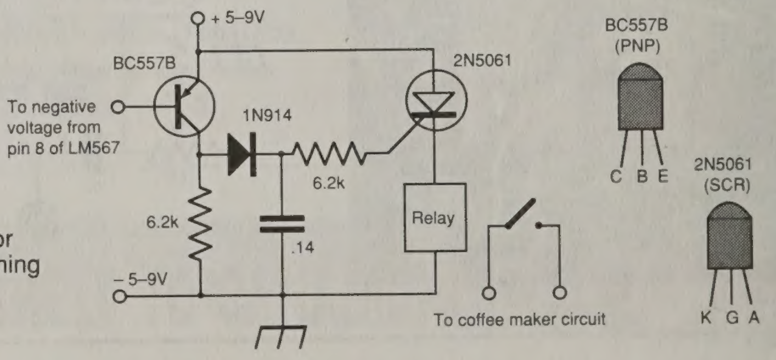


Fig 5—For your morning coffee.

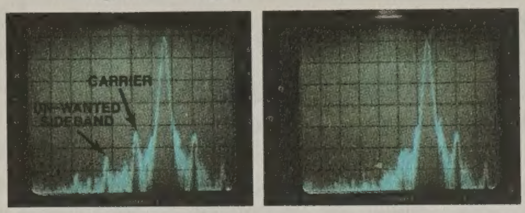
DSP

Digital Signal Processing

TS-950SD

"DX-clusive" HF Transceiver

Digital Signal Processing



Without DSP

With DSP

The new TS-950SD is the first Amateur Radio transceiver to utilize Digital Signal Processing (DSP), a high voltage final amplifier, dual fluorescent tube digital display and digital meter with a peak-hold function.

•Digital Signal Processor. DSP is a state-of-the-art technique that maximizes your transmitted RF energy. Your signal stands out because it is much more pure than your competition! You can even tailor your transmitted CW or voice signal waveshape!

•Dual Frequency Receive Function. The TS-950SD can receive two frequencies simultaneously. The sub-receiver has independent controls for frequency step size, noise blanker, and AF gain and its own digital display!

•New! Digital AF filter. Synchronized with SSB IF slope tuning, the digital AF filter provides sharp characteristics for optimum filter response.

•New high voltage final amplifier. 50V power transistors are used in the 150W final section, resulting in minimum distortion and higher efficiency. Full-power key-down time exceeds one hour.

•New! Built-in microprocessor controlled automatic antenna tuner. The new antenna tuner is faster and you can store the settings in memory! (Manual override is also possible.)

Transmit the ultimate signal.

•Outstanding general coverage receiver performance and sensitivity. Kenwood's Dyna-Mix™ high sensitivity direct mixing system provides incredible performance from 100 kHz to 30 MHz. The Intermodulation dynamic range is 105 dB.

•*Multi-Drive Band Pass Filter* (BPF) circuitry. Fifteen band pass filters are available in the front end to enhance performance.

• High performance IF filters built-in. Select various filter combinations from the front panel. For CW: 250 and 500 Hz, 2.4 kHz for SSB, and 6 kHz for AM. Filter selections can be stored in memory!

•Kenwood interference reduction circuits. SSB Slope Tuning, CW VBT (Variable Bandwidth Tuning), CW AF tune, IF notch filter, dual-mode noise blanker with level control, 4-step RF attenuator (10, 20, or 30 dB), switchable AGC circuit, and all-mode squelch.

•Built-in TCXO for highest stability.

•Built-in electronic keyer circuit.

•100 memory channels. Store independent transmit and receive frequencies, mode, filter data, auto-tuner data and CTCSS frequency.

•Digital bar meter.

Additional Features: • Built-in interface for computer control • Programmable tone encoder • Optional VS-2 voice synthesizer • Built-in heavy duty AC power supply and speaker • Adjustable VFO tuning torque • Multiple scanning functions • MC-43S hand microphone supplied

KENWOOD U.S.A. CORPORATION
COMMUNICATIONS & TEST EQUIPMENT GROUP
P.O. BOX 22745, 2201 E. Dominguez Street
Long Beach, CA 90801-5745
KENWOOD ELECTRONICS CANADA INC.
P.O. BOX 1075, 959 Gana Court
Mississauga, Ontario, Canada L4T 4C2

KENWOOD

...pacesetter in Amateur Radio

Optional Accessories
•VS-2 Voice synthesizer
•SP-950 External speaker w/AF filter •SM-230 Station monitor w/pan display •SW-2100 SWR/power meter •TL-922A Linear amplifier (not for QSK)

Specifications, features and prices subject to change without notice or obligation.
Complete service manuals are available for all Kenwood transceivers and most accessories.

DOC RIC-3, Issue 3, 1991 May 1: AMATEUR SERVICE

1. COUNTRIES THAT FORBID AMATEUR RADIOCOMMUNICATIONS

The following countries have notified the International Telecommunications Union that they forbid radiocommunications with amateur stations under their jurisdiction: Angola, Ethiopia, Ghana, Iraq, Myanamar, Saudi Arabia,Suriname, Uganda, Zaire.

2. COUNTRIES WITH WHICH AGREEMENTS OR ARRANGEMENTS HAVE BEEN CONCLUDED TO PERMIT THE EXCHANGE OF THIRD-PARTY TRAFFIC

Canada has concluded agreements or arrangements with the following countries to permit the transmission by Canadian amateurs of international communications on behalf of third parties: Antigua and Barbadu, Australia, Bolivia, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Israel, Jamaica, Mexico, Nicaragua, Paraguay, Peru, Saint Vincent and the Grenadines (no phone patches), Trinidad and Tobago, United Kingdom (limited to outgoing traffic from certain special event stations), United States, Uruguay, Venezuela.

3. COUNTRIES WITH WHICH RECIPROCAL OPERATING PRIVILEGES HAVE BEEN ARRANGED

Canada has concluded agreements or arrangements with the following countries to permit licensed Amateur Radio operators to operate radio stations while temporarily in the other country: Antigua and Barbadu, Australia, Austria, Bahamas, Barbados, Belguim, Bermuda, Botswana, Brazil, Chile, Colombia, Costa Rica, Denmark, Dominica, Dominican Republic, Ecuador, Finland, France, Germany, Greece, Grenada, Guatemala, Haiti, Honduras, Iceland, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Luxembourg, Malta, Netherlands, New Zealand, Nicaragua, Norway, Panama, Papua New Guinea, Peru, Philippines, Poland, Portugal, Saint Lucia, Senegal, Sweden, Switzerland, Trinidad and Tobago, Soviet Union, United Kingdom, United States, Venezuela, Yugoslavia. ■

Silent Keys—

Conducted By Ray Staines, VE3ZJ

It is with deep regret that we record the passing of these amateurs:

VE3CNC, Jim Harrison, Ottawa, ON
VE3CRL, Ken Rolison, Islington, ON
VE3CTU, Bob Duff, Hawkstone, ON
VE3EHL, Ed Leslie, Hamilton, ON
VE3GMU/K6GMU, Rick Chapelle, Port Colbourne, ON
VE3GNI, Gerry Robertson, Scarborough, ON
VE3JV, Fred Derumaux, Oshawa, ON
VE3LB, Lawrence Burke, Orillia, ON
VE3MOK, Leo Trusz, Sudbury, ON
VE3MYO, R Ian McAuley, Moose Creek, ON
VE3MZY, Gerry M Foster, Huntsville, ON
VE3VR, Roy Oakes, York, ON
VE3WHT, Willis Lounsbury, Maidstone, ON
VE7AJJ, Albert J Backer, Williams Lake, BC
VE7ARJ, Jim Cull, Ganges, BC
VE7BIM, Jim Pringle, Vernon, BC
VE7ERI, Duane Logan, Trail, BC
VE7IM, Cary Miller, Delta, BC
VE7RG, Jack Baldwin, Victoria, BC
VE7RON, Ron Davey, Surrey, BC
VE7VCD, Stuart Day, Victoria, BC

Note: Silent Key reports sent to *QST Canada* must include name, address and callsign of the reporter. To avoid unfortunate errors, reports are confirmed only through acknowledgement from the family of the deceased. Thus, those who report a Silent Key may not receive an acknowledgement from *QST Canada*. ■

ONTARIO DX ASSOCIATION

The Ontario DX Association (ODXA), is the largest shortwave listeners' (SWL) club in Canada. Members keep in touch through monthly meetings held in Toronto, *DX Ontario*, an excellent 80-page magazine which is also available on tape for sight-impaired members, and a weekly 40-metre net. Here are some notes on upcoming OXDA activities.

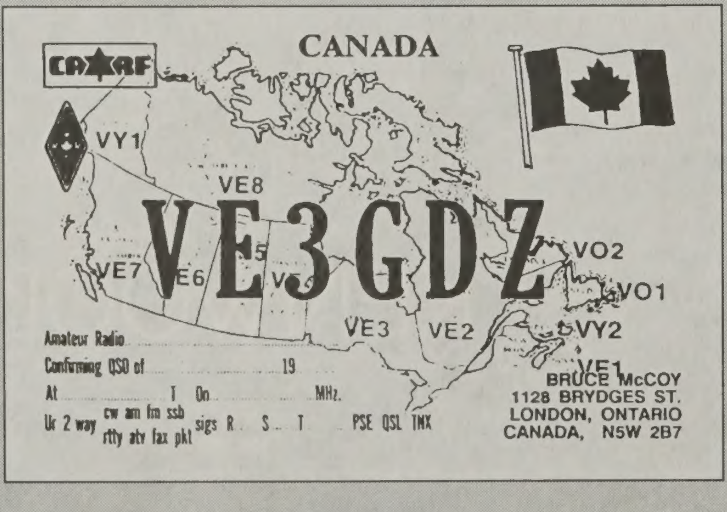
❒ Look for ODXA's Amateur Radio station, VE3ODX, operating from the Ontario Leadership Centre on Lake Couchiching, October 12–14, our Canadian Thanksgiving Day weekend. A special QSL card will be available. VE3ODX can also be heard on the Sunday OXDA net, 1200 EST/EDT on 7.068-MHz LSB.

❒ This fall and winter, Steve Canney, VE3FQ of ODXA, will conduct 10-week shortwave listening courses at Centennial College, Scarborough, Ontario. The fall session will run from September 17 to November 19. The winter session will run from January 21 to March 24. All classes are on Tuesday nights. The course text, *Shortwave Listening Guidebook*, can be purchased on first night of class. For more information, contact Centennial College at (416) 694-3241, extension 3308, or Steve at (416) 222-9658.

ODXA now has members all over the world. In Canada, ODXA membership is $30.76 ($28.75 + $2.01 GST) a year. For more information, contact OXDA, Box 161, Willowdale, ON M2N 5S8.

MOVING?

For uninterrupted delivery of *QST* and *QST Canada*, please send your change of address notice to CRRL, Box 56, Arva, ON N0M 1CO eight weeks before you move. Don't forget to quote your callsign or the seven-digit number from your mailing label. —*Ray Staines, VE3ZJ* ■



500 QSLs – Only $48.95
or
1000 QSLs – Only $77.25

PLUS SHIPPING AND ALL TAXES

Printed on one side only, in two colours. Map and flag printed in red, remainder printed in blue, on either white or buff Bristol Index. Tell me which you want. Report form only as shown, no changes. Please give me your CALL, NAME, ADDRESS AS IT IS TO BE PRINTED. CARF/CRRL membership logos supplied at no charge. For other membership logos (supplied by you) ADD $2.00 each. SHIPPING EXTRA: 500s: VO1/VO2/VY1/VE7/VE8 ADD $4.55; VE1/VY2/VE5/VE6 ADD $3.95; VE2/VE3/VE4 ADD $3.40. 1000s: VO1/VO2/VY1/VE7/VE8 ADD $5.75; VE1/VY2/VE5/VE6 ADD $5.00; VE2/VE3/VE4 ADD $4.50. Also add ALL applicable taxes. Send cheque or money order payable to B. K. McCoy, 1128 Brydges Street, London, ON N5W 2B7. ■

Moved and Seconded.../Proposée et appuyée...

MINUTES
THE 1991 ANNUAL MEETING OF THE BOARD OF DIRECTORS
THE CANADIAN RADIO RELAY LEAGUE, INC.
LA LIGUE CANADIENNE DE LA RADIO AMATEUR, INC.
1991 JUNE 01
(Meeting No. 15)

Agenda

1. Roll call and consideration of agenda
2. Approval of Minutes of Meeting No. 14
3. Business arising from the Minutes
4. Questions and comments on written reports
5. Auditors' report and financial statements
7. Committee reports
8. New business
9. Elections of officers
10. Appointments to committees
11. Appointment of auditors
12. Approval of the 1991 Budget
13. Approval of the actions of the Executive Committee
14. Date of next meeting
15. Adjournment

Minutes

1. Pursuant to due notice, the Board of Directors of the Canadian Radio Relay League, Inc., met in annual session at the Airport Marriott Hotel in Rexdale, Ontario, on 1991 June 01. President Balla called the meeting to order at 0900 EDT. The following were present: Directors Carl Anderson, VE1UU (Atlantic Region), Larry Dobby, VE2DO (Quebec Region), Ray Perrin, VE3FN (Ontario North Region), George Gorsline, VE3YV (Ontario South Region), David Snydal, VE4XN (Midwest Region), Ken Oelke, VE6AFO (Alberta Region), and David Fancy, VE7EWI (Pacific Region). Also present but without vote were: President Bruce Balla, VE2QO, First Vice President Harry MacLean, VE3GRO, Second Vice President Dana Shtun, VE3DSS, International Affairs Vice President George Spencer, VE3AGS, Honorary Vice President Noel Eaton, VE3CJ, Honorary Vice President Tom Atkins, VE3CDM, Secretary Treasurer Bill Loucks, VE3AR, General Manager Ray Staines, VE3ZJ, General Counsel Tim Ellam, VE6SH, Honorary General Counsel Bob Benson, VE2VW, *QST Canada* Advertising Manager Keith Bentley, VE3DHL, Interference Reporting Service Coordinator Malcolm Hamon, VE3KXH, and ARRL President Larry Price, W4RA. Field Services Manager Jack Strangleman, VE3GV, arrived after the lunch break. The agenda was approved as published.

2. The following errors were noted in the Minutes of Meeting No. 14: a) Minute 1, third last line: *QST Canada* Advertising Manager Keith Bentley, VE3DHL, was present from the start of the meeting. b) Minute 16, last line: The call sign of OO Dave Sheppard should have been VE3TY. c) Minute 23, second last line: This should have read "...and 5 to 6 part time...". Moved by Mr Snydal, seconded by Mr Anderson and CARRIED, that the Minutes of Meeting No. 14 be approved as corrected.

3. The Board then turned to business arising from the Minutes: a) Minute 30: No new chairman was appointed to the Public Relations Committee. In addition, other offices were vacant. Moved by Mr MacLean, seconded by Mr Fancy and CARRIED, that Al Daemen, VE2IJ, a former CRRL director, be asked to head a personnel committee to seek suitable candidates for these vacancies. b) Minute 31. The Public Service Advisory Committee was without a chairman following the resignation of Bill Hardie, VE3EFX. There seemed to be no need for an active committee at this time. Moved by Mr Loucks, seconded by Mr Oelke and CARRIED, that the Public Service Advisory Committee remain inactive without a chairman until a need for the committee arises. c) Minute 37: A guide for nominating and selecting the CRRL Amateur of the Year was prepared and published. It is now in the CRRL Policy and Procedure Manual. d) Minute 39: Special prefixes continue to be granted by DOC regional offices without coordination by Ottawa. It was recommended that CRRL Regional Directors maintain good liaison with their DOC regions to be kept aware of special prefixes and other matters of concern to amateurs, and that CRRL Headquarters be kept informed. e) Minute 44: Mr. MacLean sent a letter of appreciation to Bert Anderson, VE4AP. f) Minute 45: The study for appointing assistant directors on a geographic basis was not yet completed. Mr MacLean would be providing the committee with material on the geographic distribution of Canadian amateurs. g) Minute 48: The Executive Committee decided to promulgate legal notices through *QST Canada*. All members not subscribing to *QST Canada* are now sent a copy of the issue that contains legal notices that affect them.

4. Turning to written reports, Mr Staines noted that the discount that had been given to members on books and materials had been eliminated to ensure a tax exemption on membership fees. Now there was only one price for all, the former members' price. Mr Hamon suggested that participants in CRRL programs, especially the Interference Reporting Service, receive suitable certificates of appreciation. He would speak to Mr Stangleman about this.

5. Moved by Mr Loucks, seconded by Mr Gorsline and CARRIED, that the Auditor's Report—which reflected a healthy financial positions—be accepted. Moved by Mr Gorsline, seconded by Mr Dobby and CARRIED, that General Manager Staines and Treasurer Loucks be congratulated on jobs well done. The Board recessed from 1015 to 1030.

6. Mr Price, as President of ARRL and Secretary of IARU, brought greetings from the officers and directors of ARRL, and from the 126 IARU member-societies around the world.

7. The Board then turned to the matter of Life Members. At its last meeting, the Board had decided to charge Life Members $12 per year for *QST Canada*. Moved by Mr MacLean, seconded by Mr Snydal and CARRIED, that the policy of providing *QST Canada* to Life Members without charge be reinstated, and that instead of a renewal notice, Life Members be sent a request for an annual donation for *QST Canada* and the ongoing work of CRRL. A letter of explanation would be sent to all Life Members who had subscribed to *QST Canada*, and a list of such members would be sent to their directors. After discussion, moved by Mr Anderson, seconded by Mr Snydal and CARRIED, that a suitable CRRL certificate of Life Membership be sent to each CRRL Life Member.

8. OBS and others who receive the *CRRL News* bulletins by mail often receive them late. President Balla agreed to take over the printing and mailing of these bulletins to ensure their timelimess..

9. Some members were experiencing difficulties obtaining official CRRL name badges. Moved by Mr Gorsline, seconded by Mr Shtun and CARRIED, that Mr Shtun investigate the production of badges and report to the Board. It was noted that for several years, Winnipeg ARC had provided badges on CRRL's behalf. Mr Snydal agreed to determine the status of this project.

10. It was agreed to continue to send a letter of thanks and half a dozen copies of the magazine containing the article, to contributors to *QST Canada*.

11. Moved by Mr Gorsline, seconded by Mr Balla and CARRIED, that the President of CRRL, Inc. carry the proxy vote of the Board to vote on all matters at the CRRL Publishing, Inc. shareholder meetings. Moved by Mr Gorsline, seconded by Mr Fancy and CARRIED, that the following officers of CRRL Inc. be appointed as directors of CRRL Publishing, Inc. and to hold the offices shown: Bruce Balla, VE2QO—President; George Spencer, VE3AGS—Vice President; and Bill Loucks, VE3AR—Secretary-Treasurer. The Board recessed for lunch from 1155 to 1245. Mr Strangleman arrived during this time.

12. Mr Gorsline then tabled the report of his Strategic Planning Committee. He cautioned that he had not met with his committee and the findings in the report were his alone.

13. Mr Strangleman, as Field Services Manager, reported that he was in ill health, but that he was willing to carry on until a replacement was found. He suggested three possible replacements. He stated that the future of the Section organization was secure—it would always be needed. He referred to a new point system adopted by ARRL for admission to the Public Service Honour Roll and recommended CRRL adopt the same system. His report was accepted by the Board. Moved by

Mr Fancy, seconded by Mr Dobby and CARRIED, that the Board noted with regret Mr Strangleman's desire to be replaced, and that the Executive Committee be directed to seek a replacement.

14. The Board then turned to budget matters. The basis for setting the 1991 Budget was to request all spenders (except Section Managers) to state the amount required for the year. These amounts were then adjusted to match projected revenues. Recently, to maintain a debt-free budget, amounts requested had to be reduced considerably. Amounts included in the final draft were based on 1990 actual expenditures to the end of September, prorated to the full 12 months. In some cases, there was a large difference between amount requested and amount plced in the budget. One such case was the Section organization budgeted by Mr Strangleman on behalf of Section Managers. He felt the amount in the 1991 budget was insufficient for Section activities, and recommended that it be revised to include amounts based on 35 cents per member, minimum of $200 per section, as was the case last year. Moved by Mr MacLean, seconded by Mr Perrin, that the 1991 Budget be amended to bring monies into line with a motion approved by the CRRL Board several years ago. This motion specified that each Section Manager's budget would be determined on the basis of the following formula: number of members in the Section x $0.50, except that no Section Manager would receive a budget of less than $300. Moved by Mr Loucks that the motion be amended to read $0.35 per member and a minimum of $200 per Section as recommended by Mr Strangleman. But there was no seconder and the amendment FAILED. The original motion was voted upon and CARRIED. Moved by Mr Fancy, seconded by Mr Shtun and CARRIED, that the Section budgets for 1992 and later be based on requests to each Section Manager, as for the other officers of CRRL. Moved by Mr Perrin that the budget require the approval of at least five out of seven directors. But there was no seconder and the motion FAILED. Moved by Mr Gorsline, seconded by Mr Anderson and CARRIED, that the 1991 Budget be approved as amended.

15. Moved by Mr Loucks, seconded by Mr Perrin and CARRIED, that the firm of Thomson, Fisher & Bossy, Chartered Accountants, of London, Ontario, be appointed auditors for 1991. The Board recessed from 1425 to 1440.

16. President Balla then turned the chair over to Honorary Vice President Eaton who called for nominations for each CRRL office, to take effect on 1992 January 01 for a two-year term. The following slate was proposed: President—Bruce Balla, VE2QO; First Vice President—Dana Shtun, VE3DSS; International Affairs Vice President—George Spencer, VE3AGS; Secretary-Treasurer—Bill Loucks, VE3AR; General Manager—Ray Staines, VE3ZJ; General Counsel—Tim Ellam, VE6SH; and Field Services Manager—Jack Strangleman, VE3GV. Mr Eaton then relinquished the chair to Mr Balla who called for nominations for honorary offices. The following were nominated: Honorary Vice Presidents—Noel Eaton, VE3CJ, and Tom Atkins, VE3CDM; and Honorary General Counsel—Bob Benson, VE2VW. Moved by Mr Gorsline, seconded by Mr Perrin and CARRIED, that the above slate of officers be declared elected.

17. Moved by Mr Oelke, seconded by Mr Anderson and CARRIED, that Directors Perrin and Fancy be appointed to the Executive Committee.

18. The following committee appointments were proposed by President Balla, the first named being chairman: a) Management and Finance—Oelke, Gorsline, Loucks, Staines: b) *QST Canada*—Staines, Bentley, Loucks; c) Education—Spencer, Fancy, Shtun; d) Publications—Shtun, Snydal; e) Strategic Planning—Gorsline, Anderson, Oelke; f) Awards and Contests (including ARRL Contest Advisory Committee)—vacant *pro tem*) VHF/UHF Advisory—Shtun; h) DX Advisory (including ARRL DX Advisory Committee)—Garth Hamilton, VE3HO; i) Repeater Advisory (including ARRL Repeater Advisory Committee)—vacant *pro tem;* j) Affiliated Clubs—not required at this time and left vacant; and k) Interference Reporting (Intruder Watch)—Hamon. Moved by Mr Dobby, seconded by Mr Snydal and CARRIED, that this slate be accepted. Mr Anderson agreed follow up on finding a candidate for the Contest and Awards Committee. Mr Shtun agreed do the same for the Repeater Advisory Committee. Moved by Mr Atkins, seconded by Mr Eaton and CARRIED, that the Board express its thanks and recognition to Mr MacLean for his generous contribution and dedication to CRRL over many years. Mr Strangleman left the meeting at 3:30 pm. Mr Staines left the meeting during discussion of the next item.

19. The Board discussed a number of administrative matters. Moved by Mr Perrin, seconded by Mr Anderson and CARRIED, that the Board recognizes that the President is the Chief Executive Officer, that daily direction of the organization is under his control, and that all officers and any contract staff report to and are accountable to him at all times, on behalf of the Board.

20. Mr Staines returned to the meeting. Moved by Mr Gorsline, seconded by Mr Shtun and CARRIED, that the actions of the Executive Committee taken since the 1990 Annual Board Meeting be approved. The Board recessed from 1548 to 1558.

21. Mr MacLean took over the chair to report on the progress of merger discussions with CARF, the Canadian Amateur Radio Federation. Messrs MacLean, Spencer and Shtun reviewed the Report of the CRRL-CARF Merger Committee that had previously been distributed. Mr MacLean indicated that a new, single Canadian Amateur Radio organization could be in place within a year. The two founding societies would probably continue alongside the new one until the new organization was operating effectively. Mr Staines noted that two points in the CARF Auditors' Report for 1990 needed clarification; reserves for Life Members, and liability for a photocopier—about $30,000 over the next five years. Moved by Mr MacLean, seconded by Mr Gorsline and CARRIED UNANIMOUSLY, that the CRRL Board of Directors endorses the recommendation in the report of the CRRL-CARF Merger Committee and reaffirms its commitment to creation of a new, single Canadian amateur radio society as soon as possible.

22. The Board then turned to WARC matters. Moved by Mr MacLean, seconded by Mr Fancy and CARRIED UNANIMOUSLY:

WHEREAS a Canadian radio amateur has participated in all general World Administrative Conferences (WARCs) including WARC-79, as part of the official Canadian delegation, serving as an Amateur Radio consultant and resource person, and

WHEREAS it is beneficial that the Amateur Radio representative on these delegations be experienced and be closely connected with the international Amateur Radio community, in particular with the International Amateur Radio Union (IARU), and

WHEREAS Thomas B. J. Atkins, VE3CDM, is experienced (he was a member of the CARF WARC '79 Advisory Committee, has served in various IARU capacities for the past eleven years, and has been an elected officer of IARU Region II since 1983; currently he is also a member of the IARU World Administrative Council), well known and well respected by the Canadian and international Amateur Radio communities,

BE IT THEREFORE RESOLVED that the CRRL Board of Directors reaffirm an earlier decision that Mr Atkins become the Canadian Amateur Radio representative on the official Canadian (DOC) delegation to WARC-92 which will be held in Torremolinos-Malaga, Spain, in February–March 1992.

23. The meeting recessed for dinner at 1815 and reconvened at 2050. Mr MacLean left the meeting at this time.

24. Vice President MacLean continues to serve as editor of *QST Canada.* He also prepares the weekly CRRL News bulletins. At the last Board Meeting the Management and Finance Committee was asked to consider providing funds in the budget for an honorarium for the editor of *QST Canada.* No action was taken on this matter. Moved by Mr Snydal, seconded by Mr Shtun and CARRIED, that an honorarium of $1000 be presented to Mr MacLean along with a suitable plaque, as an expression of the appreciation of the Board based on his long and dedicated service as Editor of *QST Canada.* At this time, Mr MacLean returned to the meeting.

25. Mr MacLean will no longer be a CRRL officer after December, 1991. He also wishes to retire from his other offices: editor of *QST Canada* and editor the weekly *CRRL News* bulletins. He volunteered to discuss with possible successors their taking over of one or both of these jobs.

26. The Board tentatively scheduled its 1992 Annual Meeting for the first weekend in May, to be held in the Toronto-Rexdale area. Messrs Gorsline and Loucks would investigate the possibility of obtaining more cost-effective accommodations.

27. There being no further business, the meeting adjourned at 2130. Total time of meeting, excluding time for breaks and meals: 8 hours, 25 minutes.

Respectfully submitted —*W. W. Loucks, VE3AR, Secretary* ■

Happenings/Evénements

Conducted By Harry MacLean, VE3GRO

It's RAC!

There's progress on the merger front. On June 23—Field Day—CRRL and CARF released the following special bulletin:

The Canadian Radio Relay League (CRRL) and the Canadian Amateur Radio Federation (CARF) are pleased to announce that the name of the new, single national Amateur Radio organization will be Radio Amateurs of Canada (Radioamateurs du Canada) or RAC. CARF and CRRL are co-sponsors of RAC and are working towards merging the assets and services of CRRL and CARF into RAC in the near future.

NOTES FROM ALL OVER

☐ Sometimes when newspapers do a piece on Amateur Radio they get their facts wrong, but not the *Toronto Star*. Congratulations to the *Star's* Metro East bureau chief, Doug Ibbotson, VE3WTI, for his fine article, "Hams having a field day at non-stop radio contest"—three full columns on page two of Canada's largest newspaper (circulation 750,000). The article included a photo from last year's Field Day, information on how to become a radio amateur, and a listing of Metro Toronto Field Day sites.

☐ Prefix hunters, take note. Special-event station XM3RTM, will operate September 1–30 to commemorate the 20th Anniversary of the Maltese Amateur Radio International Society. Yes, that's a Canadian callsign granted by DOC.

☐ Nominations are now open for CRRL Amateur of the Year. To qualify, an individual should have made an outstanding contribution to Amateur Radio over the last year, or have contributed consistently to the welfare of Amateur Radio over several years. Please send your nomination with supporting documentation to CRRL, Box 56, Arva, ON N0M 1C0.

☐ South of the border, FCC's latest WARC proposal includes a realignment of the amateur and broadcasting bands at 7 MHz, a realignment that would eliminate the 200 kHz overlap between the two services. If implemented, the amateur band would drop 100 kHz to 6.9–7.2 MHz, while the broadcast band would move up 100 kHz to 7.2 MHz. The proposal faces a long uphill battle abroad. Even if adopted, it might not be implemented until 2007.

☐ Pope John Paul II has named Archbishop Roger Mahoney, W6QYI, a cardinal. The *Los Angeles Times* called Mahoney "a modern priest" who flies a helicopter and operates Amateur Radio. At 55, he is one of the youngest of the church's 165 cardinals. ■

This Amateur Radio tower has been causing a lot of problems in Edmonton. Neighbours object to the tower on aesthetic grounds and have been petitioning for its removal. Local DOC officials, citing the new *Radiocommunications Act*, are threatening to withhold the amateur's station licence if the matter is not resolved. CRRL has become involved. More later.

CANADIAN LADIES AMATEUR RADIO ASSOCIATION

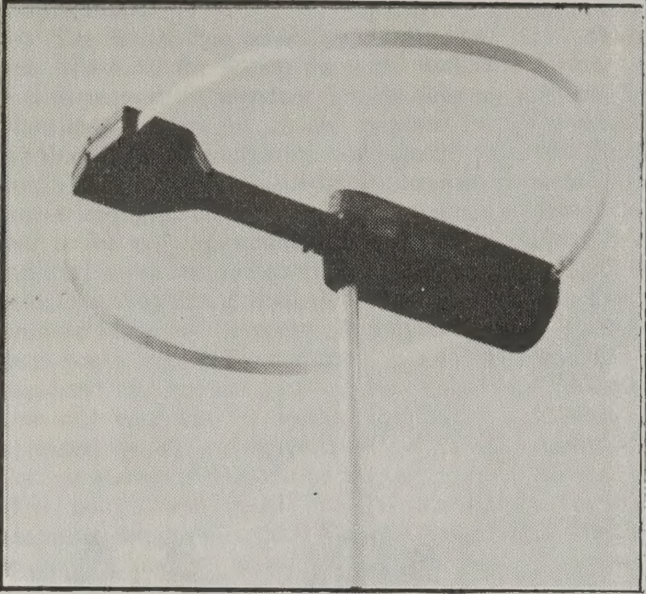
CLARA

We invite all YLs in our reading audience
to join our coast-to-coast organization.
CLARA members can be heard weekly from

September to June
Tuesdays at 1700 UTC
14.120 MHz
Come and join us!

For registration information, please write to CLARA Treasurer
Muriel Foisy, VE7LQH, R. R. 1, Pender Island, BC V0N 2M0

IsoLoop™ model 10-30 HF Antenna



Once again AEA has achieved a significant engineering breakthrough with its redesigned high-performance, low profile HF IsoLoop model 10-30 antenna. Performance isn't compromised by its small size. Operate your favorite HF band (10 to 30 MHz continuous) from areas with restrictive zoning ordinances or apartments and condos. Or take it with you on vacation... it's the ideal go-anywhere portable antenna. ONE antenna instead of numerous dipoles, unsightly verticals, antenna tuners or ground radials. The IsoLoop model 10-30 is also ideal for filling in the new WARC bands your current antenna may not tune to (such as 12 and 17 meters). The IsoLoop makes the PERFECT Standby portable antenna!

Rated up to 150 watts, the IsoLoop model 10-30 transmits and receives on any frequency between 10 and 30 MHz.

Specifications

Frequency Coverage:	10 to 30 MHz
Nominal Impedance:	50 ohms
Power Rating:	150 watts
VSWR:	Less than 1.5:1 (no nearby obstructions)
Temperature Range:	Operating 0 to 150 degrees F Storage -50 to 200 degrees F
Dimensions:	43"(109cm) diameter circle
Maximum Mast Outside Diameter:	2"(51mm)
Shipping Weight:	14 lbs.(5.5kg) UPS shippable
Coax Connecter:	UHF (SO-239)
Gain over dipole:	Depends on elevation

Mast and coax cable not included. Optional LC-2 shielded control cable with connectors available in 100ft length.

QT-1 and ET-1 Antenna Tuners

Meet your match with AEA's QT-1 and ET-1 Antenna Tuners. High-quality construction, low cost and excellent value set these tuners apart from the competition.

A good quality, economical antenna tuner for under $130, the ET-1 is designed to match virtually any receiver, transmitter or transceiver from 1.8 to 30 MHz with up to 300 watts of RF power.

The QT-1 has the same features as the ET-1, plus a built-in dummy load, a peak or average reading meter, and a meter light.

Versatile. The QT-1 and ET-1 are compatible with almost ANY real antenna including verticals, dipoles, inverted vees, beams and mobile whips that are fed by coax cable, balanced lines or a single wire. For easy connection to balanced lines, a 1:4 balun is built-in.

Tuning Options. Both tuners feature front panel switch control which allows you to alternate between two coax-fed antennas (direct or through the tuner). You can also switch to a balanced line or wire antenna. The BYPASS position allows you to switch to a directly-connected coax antenna. In the DIRECT positions, COAX 1 OUT or COAX 2 OUT, the tuner is bypassed, but the SWR/Power meter remains active.

The QT-1 also has switch positions for the dummy load (tuned or direct).

Dual-Movement Meter. Tl
precision dual- movement me
and SWR.

AEA Quality. Unique engi
one of the leading innovators
same quality and superior tec
best deal for an antenna tuner.
cabinet is chemically treated
off with your fingernail during

Specifications (Typical)

RF Power: 3.5 to 30 MHz,
150 W on 1.8 MHz

Frequency Range: 1.8 to 3

Transmitter/Antenna Tuning

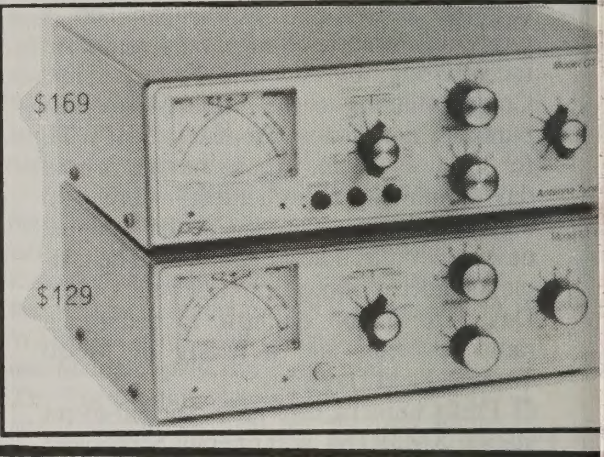
Reactance: 12-position swi

Antenna Selector: Six posit
COAX 2 tuned and DIRE

Power Switch: High and lo

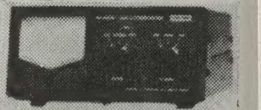
Dimensions: 10.2"(259mm)

Weight: 3.4 lbs.(1.5kg)



DAIWA

Cross Needle SWR/Power Meters for All Bands



NS-660PA

Model	Freq. Range Int. Sensor	Forward Power	Connectors
NS-660A/PA	1.8-150 MHz	30/300 W/3 kW	SO-239
NS-663BM/BN*	140-525 MHz	30/300 W	SO-239/N type
DP-810	1.8-150 MHz	0-1.5 kW	SO-239
DP-820/N	140-525 MHz	0-150 W	SO-239/N type
DP-830	1.8-525 MHz	0-1.5 kW/0-15 W	SO239/N type
CN-101	1.8-150 MHz	15/150 W/1.5 kW	SO-239
CN-103	140-525 MHz	20/200 W	SO-239/N

All models back lit
*Average Power Reading Only

MOBILE/BASE CROSS NEEDLE SWR/POWER METERS

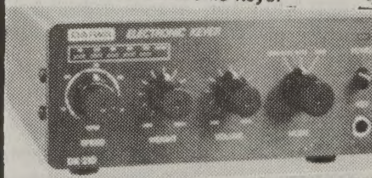
CN-520

CN-460M

Model	Freq. Range Int. Sensor	Forward Power	Connectors
CN-410M*	3.5-150 MHz	15/150 W	SO-239
CN-460M*	140-450 MHz	15/150 W	SO-239
CN-465M*	140-450 MHz	15/75 W	SO-239
CN-520**	1.8-60 MHz	200 W/2 Kw	SO-239

KEYER DK-210 $165.00

CW is one of the most enjoyable modes of amateur radio communication. DAIWA makes CW easy with the DK200/DK210 electronic keyers. These keyers do most of the work for you by eliminating fatigue and improving your "fist". Features include semi-automatic, automatic, and tune modes as well as dash/dot memories, 8-50 WPM capability, an L.E.D. speedmeter (DK210 only), and two types of keying outputs to suit almost any transmitter. A variable frequency sidetone monitor is also included. If you like CW, you'll love DAIWA'S DK210 electronic keyer



DK-210

	DK-210
SPEED	8 WPM — 50 WPM
SIDE-TONE OSCILLATOR FREQUENCY	500 — 3000 Hz
KEYING OUTPUT CIRCUITRY	GRID BLOCK: −100 V 10 mA max. DIRECT: +300 V 100mA max.
POWER CONSUMPTION	13.8 V DC (9-15 V) approx. 100 mA (DK-200) 200 mA (DK-210) (or 9 volt battery can be installed inside cabinet)
DIMENSIONS (W × H × D m/m)	150 × 62 × 150
LED SPEED INDICATOR	DK-210 only.

600 WATTS OUT $ 995

A tough low cost linear with REAL transmitting tubes!

Ameritron's new AL-811 linear amplifier gives you plenty of power to bust thru QRM. You get a quiet desktop linear that's so compact it'll slide right into your operating position -- you'll hardly know it's there . . . until QRM sets in. And you can conveniently plug it into your nearest 120 VAC outlet.

NEW

AL-811

You get three tough 811A transmitting tubes. Plus you get extra heavy duty power supply, all HF band coverage, pressurized ventilation, tuned input, dual illuminated meters, adjustable ALC, operate/standby switch, transmit LED, UPS shippable and much more . . .

Call your dealer for yours today!

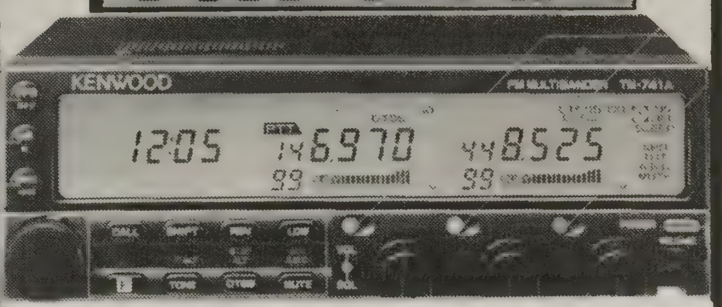
and ET-1 both feature a
multaneously monitor power

designs have made AEA
mateur radio industry. That
upport make the ET-1 your
er AEA products, the ET-1
aint will not scratch or chip
operation.

us 300 watts;

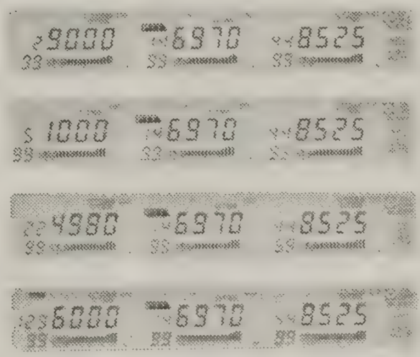
uous rotation capacitors
ductor
OAX 1 tuned and DIRECT,
ass and balanced antenna
/30W)
"(239mm)D x 3.5"(89mm)H

TM-741A



■ **Full Features, Ultra-Compact Design**
The TM-741A is a full-featured flexible dual-bander in a compact mobile package. Measuring only 5.91 (150)W×1.97 (50)H×6.89 (175) D inch (mm), the TM-741A weighs only 3.53 lbs (1.6 kg), for easy mobile installation.

■ **Optional Band Units (28 MHz, 50 MHz, 220 MHz, 1200 MHz) for Tri-Bander Operation**
Optional band units can be installed for tri-bander operation. The 440 MHz band unit can be removed, providing greater flexibility in choice of operating bands.



■ **Easy-to-Operate, Easy-To-Install Compact Control Unit**
This compact, easy-to-operate control unit with front panel display may be mounted in any convenient location using the optional detachable kit PG-4K or PG-4L, providing maximum flexibility in installation.

■ **Extended Frequency Coverage**
The 144 MHz unit band receives from 118 MHz to 174 MHz including the Aircraftband and the Weather channels. The transmitter mode covers the Amateur band from 144 MHz to 148 MHz only. 440 MHz band offers extended frequency coverage from 438 MHz to 450 MHz on both transmit and receive modes.
(144 MHz band may be modified for MARS and CAP. Permits required.)
** Specifications are guaranteed for Amateur Band only.

evolutionary TNC

Designed for flexibility and programmability from its first appearance in 1986 through 4 major firmware upgrades to date, the Kantronic's All Mode represents the TNC which has evolved to meet the current state of the user's art.

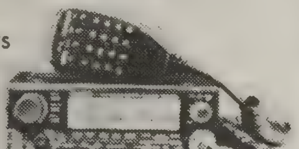
The KAM is the first dual port unit capable of simultaneous HF and VHF packet. Its user replaceable EPROMS allow us to incorporate new features as technology evolves. This assures that your KAM will remain fully viable with current field practice today and in the future.

The Kantronics KAM, the TNC that evolves with the state of the art.

- operates packet on HF & VHF simultaneously
- supports terminal, HOST, KISS, BBS, CW, RTTY, ASCII, ARQ, FEC, NAVTEX, and AMTOR-625
- supports WEFAX, KA-NODES & HF/VHF gateway
- personal mailbox with reverse forwarding
- software/internal/external carrier detect, programmable mark/space/CW filters & bargraph tuning
- RS-232 & TTL interfacing with watchdog timers
- options include MSK & 2400 baud modems and battery backup/Smart Watch™

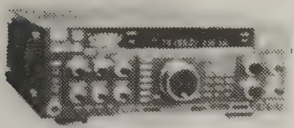
NEW!
KENWOOD
TH-77A
2M/440 MHz
Extended Receive
Dual Receive/
Dual LCD Read-out
DTSS, CTCSS,
42 Memories
DTMF AUTO DIALER

KENWOOD
TM-731A/631A
2m/70cm 2m/220MHz
Dual
Banders



GREAT PRICES, CALL

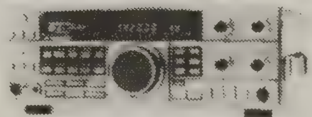
YAESU
FT-990
NEW!



100W HF Gen Cov Transceiver
DDS, QSK • 500Hz CW Filter included

YAESU
FT-736R
VHF/UHF All Mode Transceiver
The
Ultimate
Oscar
Machine

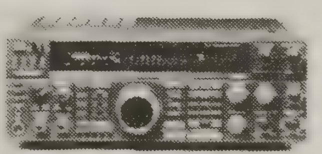
KENWOOD
TS-440S HF Transceiver



- 160m to 10m Amateur Bands
- 100-KHz to 30 MHz Receiver
- Available with optional built-in Antenna Tuner

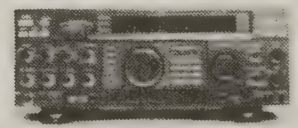
CALL FOR PRICE

KENWOOD
TS-950S



Digital DX-Clusive Performance
150W HF Dual Receive
CALL FOR PRICE

YAESU
FT-1000
200W, DUAL RX, GEN COV
RX, QSK, TCXO



CALL FOR LOW PRICE

With a **full time** technician on staff we can handle all of your repairs quickly and with care. Very little of today's equipment can be serviced by the amateur operator. Make sure you buy your equipment from a dealer who can give you after sale advice and service. ***ATLANTIC HAM RADIO LTD*** has become a name you can count on.

ATLANTIC HAM RADIO LTD.
368 WILSON AVE. ***(FAX 631-0747)***
DOWNSVIEW, ONT. M3H 1S9 ***(416)636-3636***

THE CRRL BOOKSHELF

STUDY MATERIALS

		PRICE	POSTAGE	STOCK #	✓
Talk to the World		19.00	1.60	1000	☐
Amateur Basic Question Bank		11.00	1.50	1011	☐
Code Tapes-Beginner	(OT)	11.25	1.25	1200	☐
Code Tapes-5-10 wpm	(OT)	11.25	1.25	1210	☐
Code Tapes-10-15 wpm	(OT)	11.25	1.25	1220	☐
La radioamateur un universe		23.00	1.10	2000	☐

BEGINNERS

Operating an Amateur Radio Station		1.25	1.60	3000	☐
First Steps in Radio		7.25	.80	3010	☐
Premier pas en radio, W1FB (RAQI)		7.25	.80	2020	☐
En Onde		12.00	.80	2030	☐
Help for New Hams, W1FB		11.25	.80	3020	☐

INSIGNIA

Lapel Pins	(OT)	3.00	.80	1500	☐
Cloth Diamond 5"	(OT)	3.00	.80	1520	☐
Cloth Diamond 3"	(OT)	2.00	.80	1510	☐
ARES Circular Patch 4"	(OT)	4.00	.80	1530	☐
Set of 3 CRRL Logo Decals	(OT)	1.00	.80	1590	☐

OPERATING AIDS

1991 North American Callbook	(OT)	36.00	2.25	2700	☐
1991 International Callbook	(OT)	36.00	2.25	2710	☐
Log Books-pack of 3	(OT)	10.00	2.00	1700	☐
Super Log Book-pack of 3	(OT)	16.00	2.00	1710	☐
Radiogram (message) Pad	(OT)	2.00	1.50	1730	☐
DXCC Countries List	(OT)	1.50	1.50	2510	☐
Grid Locator for North America	(OT)	1.50	1.25	2520	☐
Net Directory	(OT)	1.50	1.50	2530	☐
Repeater Directory	(OT)	7.25	1.50	2540	☐
World Map (ARRL)	(OT)	14.50	3.00	2551	☐
Callbook Prefix Map of the World	(OT)	7.75	*3.50	3100	☐
Callbook Prefix Map of North America	(OT)	7.75	*3.50	3110	☐
Callbook Great Circle Map of the World	(OT)	7.75	*3.50	3120	☐
Callbook FOLDED Map of the World	(OT)	6.00	1.25	3140	☐

*These maps can be shipped together. Add $3.50 postage only once per order.

VHF & UP

All About VHF Amateur Radio	13.50	1.10	6500	☐
UHF/Microwave Experimenter's Manual	22.50	1.30	6510	☐
Microwave Handbook Vol. 1 (RSGB)	40.00	1.30	6520	☐
Satellite Anthology	9.00	1.10	6530	☐
Satellite Experimenter's Handbook Vol.2	22.50	1.30	6540	☐
Weather Satellite Handbook	22.50	1.30	6550	☐

ANTENNA BOOKS

	PRICE	POSTAGE	STOCK #	✓
ARRL Antenna Book 16th Edition	24.00	2.50	4001	☐
Antenna Compendium Vol.1	11.25	1.10	4010	☐
Antenna Compendium Vol.2	13.50	1.10	4020	☐
RSGB HF Antennas for All Locations	17.00	1.30	4300	☐
Antenna Notebook, W1FB	11.25	1.10	4030	☐
Novice Antenna Notebook, W1FB	9.50	1.10	4040	☐
Simple Low Cost Wire Antennas	13.50	1.10	4210	☐
Antenna Impedance Matching	17.00	1.30	4050	☐
Transmission Line Transformers 2nd Edition	22.50	1.30	4060	☐
Practical Wire Antennas	16.75	1.30	4090	☐
Reflections	22.50	1.30	4070	☐
All About Beam Antennas	13.50	1.10	4240	☐
All About Cubical Quads	11.25	1.10	4220	☐
All About Vertical Antennas	12.50	1.10	4230	☐
Yagi Antenna Design	17.00	1.30	4080	☐

TECHNICAL BOOKS

1991 ARRL Handbook	28.00	2.50	5000	☐
ARRL Electronics Data Book	13.50	1.10	5010	☐
Radio Frequency interference	5.75	.80	5020	☐
Interference Handbook	13.50	1.10	5070	☐
Hints and Kinks	9.00	1.10	5030	☐
Solid State Design	13.50	1.10	5040	☐
Design Notebook, W1FB	11.25	.80	5050	☐
Spread Spectrum Sourcebook	22.50	1.30	5060	☐

OPERATING

Operating Manual	17.00	2.25	5500	☐
Complete DXer 2nd Edition	13.50	1.10	5510	☐
DXCC Companion	6.75	.80	5520	☐
Transmitter Hunting	21.50	1.30	5540	☐

PACKET/COMPUTERS

Gateway to Packet Radio 2nd Edition	13.50	1.10	6000	☐
Proceedings 9th Conference	13.50	1.10	6010	☐

QRP

QRP Notebook, W1FB	7.25	1.10	3500	☐
QRP Classics	13.50	1.10	3510	☐

MISCELLANEOUS

50 Years of ARRL	5.25	.80	7000	☐
200 Metres and Down	9.00	.80	7010	☐
From Spark to Space	22.50	1.30	7020	☐
Night Signals (adventure)	5.75	1.10	7200	☐
Tompkins Adventure (Collection 6 Books)	27.00	2.25	7210	☐

CRRL Publishing, Inc., Box 56, Arva, ON N0M 1C0

How to order: Please check (✓) the box at the end of the line for each item you want. Add costs and the amounts shown for postage. Then add 7% GST to your total. **Ontario residents only: Add 8% provincial sales tax on total of costs and postage (but not on GST) for all items marked (OT).** Thank you.

Name: ______________________________ Call: ______________

Address: ____

____

______________________________ Postal Code: ______________

Total cost + postage $________

7% GST $________

8% PST—(OT) items
Ontario residents only $________

Amount of cheque $________

Section News/Nouvelles des Sections

Conducted By Jack Strangleman, VE3GV

The CRRL Field Organization Forum

Reports invited: CRRL Section Managers (SMs) and their Section-level assistants coordinate traffic handling, emergency communications and bulletin service across Canada. Your SM (name and address appears on page 2 of this *QST Canada*) welcomes reports of individual and club activities for publication in this column. Activities do not have to be related to the CRRL Field Organization or to CRRL.

SECTION MANAGER ELECTION RESOLICITATION NOTICE

To all CRRL members in the Maritimes-Newfoundland and Ontario Sections: You are hereby resolicited for nominating petitions pursuant to elections for Section Manager. Because of space limitations, full election notices will not be carried here. A nominating petition, to be valid, must carry signatures—on the petitions—of five or more CRRL Full Members residing in the Section. Petitions must be received at the CRRL Headquarters office by 1991 September 13. For additional details see the British Columbia Section Manager Election Notice in April *QST Canada*, or contact CRRL Headquarters. *—Jack Strangleman, VE3GV, Field Services Manager*

REPORTS FOR MAY 1991

Alberta: SM: Don Wilcox, VE6CG; STM: VE6AKY; SEC/TC: VE6AFO; OO: VE6TY. Calgary Amateur Radio Association (CARA) provided communications for the Theatre Calgary Relay Race from Banff to Calgary. Forty CARA members looked after 1200 runners along the Trans-Canada Highway for timing between relay points and for safety. The Golden Triangle bicycle ride took place on the long weekend of May 18. The route covered from Eisenhower Junction in Alberta to Radium and Golden, BC, and back along the Trans-Canada to Eisenhower Junction. A number of CARA members provided communications for this event, maintained safety and drove the transport van which carried the participants' personal effects. On May 24–26, Northern Alberta Amateur Radio Club (NAARC) hosted its annual hamfest at Namao. A rough count on Saturday indicated approximately 500 people had stopped by. Norm Waltho, VE6VW, covered the CARF question and answers and *ARLA Directory* sales. CRRL Alberta Director Ken Oelke, VE6AFO, and myself covered CRRL questions and answers. Bill Gillespie, VE6ABC, covered CRRL publications and materials. Doug Howard, VE6CID, and Steve Miller, VE6SWM, of CARA answered questions about the future repeater on Television Mountain near Castle Junction, Alberta. This is destined to be the highest repeater in Canada. DOC provided a communications monitoring van manned by George Haship. The Saturday banquet was well attended by 165 people, including many members from clubs in the surrounding areas. Regretfully, I did not get a list of the other clubs represented. After a great roast beef dinner, NAARC President Dave Clarke, VE6LX, honoured Bill Gillespie, VE6ABC, with a lifetime achievement award as well as a Kenwood TM-241. Congratulations Bill! Guest speaker was Les Young of the Science Centre in Edmonton, who gave a slide presentation on the centre and its projects. Terry Bosse, VE6TBH, and the rest of the hamfest committee put on a fine show and should be commended for a job well done. On May 24, CARA members provided communications for the Spring Rocky Mountain Car Rally west of Calgary. Hope everyone participating in Field Day had a fine time. More next month.

British Columbia: SM/SEC: Ernie Savage, VE7FB. British Columbia Public Service Net (BCPS, 3729 kHz) Manager Ford, VE7DDF, reports May check-ins: high–178, low–108, total 1469. Ford will be leaving BC Telephone in August to become a married man, and he is turning the net over to his Assistant Net Manager, Jim, VE7JN. Ford will be checking into the net from time to time as he and his bride do some travelling. BCPS is looking for a new net manager. Ford, all of us wish the two of you the best. Our sincere thanks for all the work you have done. British Columbia Emergency Net (BCEN, 3652 kHz): Manager Ferdi, VE7EJU, reports 758 May check-ins. BCEN meets daily at 1900 UTC (1700 PDT). British Columbia. Net speed is 10 wpm. Off the net, we go at any speed you wish. Please check into this friendly CW net. We would love to have you aboard. Ferdie will be away for six months on forest fire duty and a canoe trip up north. BCEN is looking for a net manager during his absence.

Manitoba: SM: Bill Crooks, VE4JR; ASM: VE4IX; STM: VE4JA, SEC: VE4PN; NMs: VE4LB, VE4IX, VE4TE. It's that time of the month. Not too much to report. Dale, VE4AED, has started a slow-speed CW net primarily designed for the newly licensed amateurs who want to increase their code speed and gain experience in net procedures. Our congratulations go out to all those amateurs who successfully obtained their Basic, and in some cases, their code endorsement as well. Also, hats off to all those instructors who spent many hours in the classroom, as well as at home, teaching the newcomers, and helping them pass their tests. By next month, I should have a report from your new SEC. Dave, VE4PN, will tell us how he has things organized. 73.

Maritimes-Newfoundland: Acting SM: Carl Anderson, VE1UU; STM: Mel Lever, VE1VX; BM: Brent Taylor, VE1JH. No report available. The Maritimes-Newfoundland Section does need a Section Manager. Contact the Acting Section Manager or CRRL for details.

Ontario: Acting SM: Larry Thivierge, VE3GT @ VE3WQ; BM: VE3GSA @ VE3JF; SEC: VE3GV; STM: VE3CYR @ VE3INF; TC: VE3EGO. VE3UCR at Foymount, possibly the highest populated site in all of Ontario, originally started as a packet node back in the fall of 1988. In early June this year, a 70-cm repeater was installed operating on 442.07 MHz (+) with a link on 223.24/.84MHz. Access is now available from Toronto, Bancroft and Sudbury. Special thanks go to VE3DGC, VE3DQL, VE3JCH, VE3MJG, VE3OSD, VE3SWQ, and VE3WQ. Regretfully I report that VE3CRL, VE3JEP, VE3JV, VE3MOK, VE3RNT, and VE3WHT have become Silent Keys. The Kenora repeater controller has been repaired and the links to Falcon Lake and Sioux Narrows are up and running. North Shore, take a listen for the island's second repeater, VE3LTR on 146.670 (–). It's just had a face-lift with a new antenna and new heliax. The range is better and coverage is just fantastic. VE3TND recently became the first to pass an amateur exam sponsored by the Border City Radio Club. VE3FOD is this year's recipient of the Dave Allison Award. Due to postage increases the CANAD-X QSL Bureau has decided to do away with its outgoing QSL bureau. Since many of their cards were being sent through the CRRL Outgoing QSL Bureau, they recommend that all previous users switch to the CRRL bureau in the future. The DX Century Club (DXCC) "countries "list will grow from 322 to 323 on 1991 September 1 with the addition of the Penguin Islands. The Penguins, off the coast of Namibia, are claimed by South Africa. QSL cards for DXCC credit may be submitted to ARRL Headquarters beginning September 1. Cards received before that date will be returned without credit. VE3SKE is the new editor of Tot-Topics. A group of Ottawa-area DXers have installed a PacketCluster node on 145.11 MHz at the home of VE3JLP in Metcalfe. VE3XDX is a special-purpose packet radio node designed to share, store and retrieve DX information. Future plans include linking this node to Montreal and to at least one of the US networks. The new executive of London ARC is President—VE3ZAV, Vice President—VE3ZCO, Secretary—VE3RSK, Treasurer—VE3PZR, and Directors—VE3NRX, VE3OLN and VE3POR.

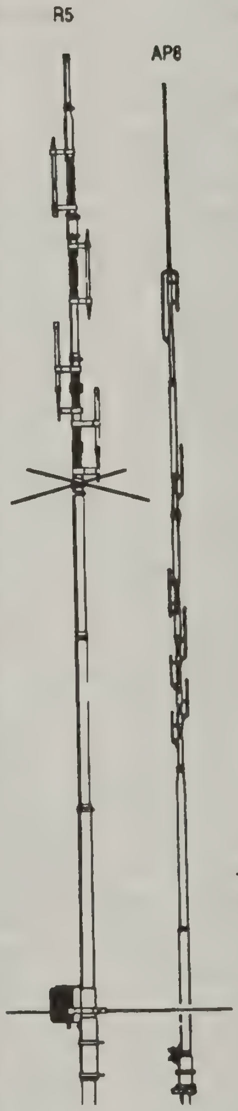
Quebec: SM: Harold Moreau, VE2BP; STM: VE2EDO; BM: VE2ALE. Sorel-Tracy ARC reported an attendance of more than 1600 at its May 26 hamfest. Plus de 1600 amateurs se sont rendus au Hamfest de Sorel-Tracy le 26 mai. Félicitations aux membres du club. *Ne pas confondre*. Le réseau d'urgence "RUCA" n'est pas un réseau d'urgence *officiel* de CRRL. Félicitations à tous les nouveaux membres du conseil d'administration de l'UMS. Bonne vacances à tous.

Saskatchewan: SM: Joan Lloyd, VE5JML. Regrettably, I announce the May 28 passing of VE5FD, Charles Smith of Saskatoon. In 1931, Charlie was a founding member of the Saskatoon Amateur Radio Club. In 1981, Charlie was made a lifetime member by the club. He will be sorely missed. Our best wishes to John, VE5FB, on his continuing recovery after bypass surgery. Congratulations to Steve, VE5RAM of Swift Current, on obtaining his Basic license. Thanks to all Regina amateurs who provided communication on May 25 for the annual Moon Walk. Further to statistics published in May *QST Canada*, on June 7, Saskatchewan had 947 licensed amateurs. Recent figures released by DOC reveal that there are 25,227 amateurs in Canada. Therefore 3.75 of all licensed amateurs in Canada are VE5s. We are all awaiting the return of decent HF band conditions and the upcoming provincial hamfest in Prince Albert on July

Produits Electroniques
ELKEL Ltee

cushcraft
CORPORATION

A3S	**14,21,28 MHz 3 ELEMENTS**	**$ 475.00**
A4S	14,21,28 MHz 4 ELEMENTS	570.00
AP8	**3.5,7,10,14,18,21,24,28 MHz ANTENNE VERTICALE**	**285.00**
AV3	14,21,28 MHz ANTENNE VERTICALE	119.00
AV5	3.5,7,14,21,28 MHz ANTENNE VERTICALE	220.00
R5	**14,18,21,24,28 MHz ANTENNE VERTICALE**	**380.00**
APR18	RADIALES POUR 8 BANDES	72.00
215WB	**144-148 MHz 15 ELEMENTS**	**161.00**
230WB	144-148 MHz 30 ELEMENTS	494.00
3219	144-148 MHz 19 ELEMENTS	218.00
ARX-2B	**135-160 MHz RINGO RANGER II**	**78.00**
ARX-450B	435-470 MHz RINGO RANGER II	81.00
ARX-2	**135-160 MHz RINGO**	**62.00**
AR-6	50-54 MHz RINGO	85.00
AR-10	28-29.7 MHz RINGO	85.00
AR-270	**144-148 / 435-450 MHz RINGO DOUBLE BANDES**	**89.00**
AR-450	440-460 MHz RINGO	62.00
A147-11	**146-148 MHz 11 ELEMENTS**	**95.00**
A147-22	**146-148 MHz 22 ELEMENTS**	**313.00**
A-449-6	440-450 MHz 6 ELEMENTS	72.00
A449-11	**440-450 MHz 11 ELEMENTS**	**95.00**
A50-3S	50-51 MHz 3 ELEMENTS	133.00
A50-5S	**50-51 MHz 5 ELEMENTS**	**209.00**
A50-6S	50-51 MHz 6 ELEMENTS	370.00
10-3CD	**28 MHz 3 ELEMENTS**	**266.00**
15-3CD	21 MHz 3 ELEMENTS	347.00
20-3CD	**14 MHz 3 ELEMENTS**	**494.00**
40-2CD	7 MHz 2 ELEMENTS	737.00
TEN-3	**28 MHz 3 ELEMENTS**	**149.00**



Produits Electroniques ELKEL Ltee

2435 blvd. des Recollets Trois-Rivieres P. Que. G8Z 4G1
Tel. (819) 378-5457 Fac. (819) 378-0269
mardi-mercredi (9h-17h) jeudi-vendredi (9h-21h) samedi (10h-15h)

ELKEL

Prix sujet a changement sans preavis / Prices subject to change without notice

MAY 1991

HAMFEST SOREL TRACY 1991

VHF-UHF/THF-UHF

Conducted By Dana Shtun, VE3DSS
500 Willard Ave, Toronto, ON M6S 3R6
Tel (416) 763-1761

Last Month Continued…

Last month we ran out of space, so here we are again… Yes, it was a girl!—VE3DSS

ON THE BANDS

50 MHz: From Nova Scotia, Mike VE1XDX, continues to work DX on 50 MHz—despite the predicted waning of Solar Cycle 22. On March 2, Mike heard the PT7BCN beacon between 1250 and 1330 UTC. He was disappointed to find no other signals on the band. However, at 1230 UTC on March 3, Mike worked into Africa with 6W1QC in at 59 plus on 50.110 MHz, and 9L1US way over 59 on 50.117 MHz. At 1330 he reported copying the PT7BCN beacon. Things were quiet until March 10 when Mike heard KB6SL/CE3 on 50.129 MHz. This was the same opening reported by Dennis, VE3ASO, in a previous column. The station in Chile was running very high power and a large antenna. The propagation medium must have been TE and Es, as his signal was spread over a large part of North America—most unusual.

More on this opening: In KA3B's *50-MHz DX Bulletin*, Kevin, KB6SL reported making 325 contacts, 90% of them US, on March 9–10. Kevin states, "On Sunday I was running 700 watts output and experienced many S-1 pileups. Conditions were very erratic. In the 20–30 seconds it took for me to note five or ten callsigns, conditions would shift and I would get no response from the stations called. Many stations faded while giving me a report and I had to catch the QSB just right to get through." Kevin operates from Santiago and from a ski resort in the Andes. Hopefully, we will hear more from him during the summer. To date, Kevin has worked three Canadian call areas: VE1, VE3 and VE6,.

Mike, VE1XDX, mentioned that the band was quiet from March 10 to April 5, but on April 5, while "snoozing in front of the rig", Mike heard something. Careful tuning brought in LU9AEA, LU3EX, LU7DZ, LU3EW and PY5CC between 1220 and 1244 UTC. This was followed by 15 minutes of white noise and an unusual band opening to Africa, with the V51VHF 50.077-MHz beacon heard at 1303. Mike then proceeded to work ZS6AXT at 1303 on 50.134 MHz and ZS9A at 1328 UTC on 50.109 MHz. Before the band went out, Mike had three new DXCC countries—just when the band was showing signs of having packed it in for the season.

The band opened again on April 6 with LUs in at 1230 and Africa in at 1430. Between 1440 and 1500 UTC, VE1XDX worked V51KC, V51W, ZS9A, V51DM and V51SW—all 59 SSB. Mike runs 170 watts to a four-element yagi at 70 feet.

Continuing down east, May 1 brought more DX. Between 2110 and 2200 UTC, with WWV announcing 162/25/4, the band opened to LU8AJK, LU3EX, LU9AEA, LU9EHF, CX4HS, CX8BE, LU3DGA, CX2DQ, CX2PI, LU7FA, LU7MEC and LU8EEM! Mike notes that these were his first CX QSOs and wishes that other DX contacts were as easy. I hope that Mike continues to report on his progress in this column.

On May 20, in Dunnville, Ontario, Peter, VE3EMS, found Es starting off well this season with CO2KK into his FN02 QTH for about two hours starting at 1345 UTC. Things quieted down until around 1730 with K6MYC, AA6TJ and VE4AKI all in loud. Peter commented that the opening was strange because there was little or no DX in between, just the long haul stuff. This could be good news for later in the season. Incidentally, CO2KK has a new QSL manager. Cards now go to Joe Schroeder Jr, W9JUV, 2120 Fir, Glenview, IL 60025.

A phone call from Doug, VE5UF, showed just how widespread the May 20 opening was. According to Doug's MUF tracking system, the band was open from Saskatoon to Ontario and California at the time that Peter, VE3EMS, was making his contacts. Doug unfortunately was at a business meeting and missed the opening. He should be QRV all summer, and we look forward to his reports. Doug runs high power and a very well designed five-element quad.

Doug noted that VHF activity is on the upswing in the west. He reported that a VE6 had recently worked W6s using a 3-watt AEA handheld SSB transceiver, while walking between grid squares DO30 and DO31! Doug also reported that on May 20, Caribbean stations were working into the Dakotas and Wyoming.

May 27 brought some unusual DX for Peter, VE3VD (ex-VE3EMS, but we're not done with that call yet—see below). During a brief Es and TE opening, he worked KP4EOR (FK78) at 2348, KP4A (FN68) at 2351 and a new country—FM5WD in Martinique—at 2353. Signals were extremely strong—20 over S9.

Welcome to George, VE3HFW, in Markdale, Ontario, running a TS-680 and a 5-element yagi. George also puts out a good signal on 144.2-MHz SSB. We expect George will increase his ERP in the near future.

144 MHz: Dick VE3FAC is now back on the air with a junior Boomer at 70 feet from his Scarborough, Ontario, QTH. He was QRT all winter while he worked on his station. He successfully modified a prop-pitch motor, incorporating full directional logic, reverse-direction delay, accurate readout and much more. Dick estimated that his design, machining and assembly time was well over 200 hours.

VE3BGH has been working on a "mag mount" halo antenna for SSB mobile operation. This antenna is quite low profile and easy to install. Initial contacts from St. Catherines into Toronto with just three watts indicate it's a sound design.

Thanks to the encouragement of Marv, VE2ABM/3 of Mississauga, on April 10, 156 amateurs checked into the 2-metre Gaslight Net. We welcome Munir, VE3MYN, to 2 metres. Munir a "white caner", has been very active on HF. He runs an IC-275 to a Ringo vertical. With Marv's help, he should have something more directional and horizontal in the near future. We also welcome Mike, VE3SQD of Toronto, who is QRV on SSB with about 30 watts and a horizontal quarter-wave antenna. Mike should have his beam up real soon. Best DX to date: W2PCG in Hamburg, NY, near Buffalo.

Doug, VE5UF, is planning a major 2-metre meteor scatter system that should be operational this summer. Look for Doug's 500-watt signal. He'll be using a computer-controlled transceiver, and a single "M-squared" yagi. Judging by the big signal from Ross, VE5LY, during last year's Persied shower, Doug should do just fine. With a good setup and some luck, all 48 of the continental US states can be worked, leaving only Hawaii and Alaska for EME. Well, maybe only Hawaii….

220 MHz: The Eastern VHF/UHF Society will hold a special contest on the evening of August 27–28. That's when the US FCC closes 220–222 MHz to US amateurs. This event, called the 220 QSY QSO Party, is patterned after the ARRL and CRRL "sprint" contests. Phase A will take place on August 27, 2200–2400 UTC, using the entire 220–225-MHz band. (Actual operating frequencies will likely be 220.1 and 220.2 MHz.) Phase B will take place on August 28, 0000–0400 UTC, on the new 222–225-MHz band. (Actual operating frequencies will likely be 222.1 and 222.2 MHz.) Plan to join in.

Incidentally, the changes in the US do not affect Canadians. We are still AMATEUR EXCLUSIVE on the entire 220–225-MHz (135-centimetre) band

432 MHz: Here we go again. Back in

ARRL NATIONAL CONVENTION

"IT'S PARTY TIME!"

1991 AUGUST 23, 24, 25
SAGINAW, MICHIGAN, USA

IT'S AFFORDABLE! Three-day passes at $7 in advance. Charter buses with up to $300 rebates. Rustic camping at $5 per night. Reasonable hotels. Excellent restaurants—reasonably priced.

IT'S UNUSUAL! Two-legged CW demonstration. Special events. Railroad museum. Saving our Past for Tomorrow. W. A. Tompkins writing award. Monument dedication. Petroglyphs.

IT'S INTRIGUING! Loading a wet noodle. Mount St. Vincent eruption. WARC-92. Mars reception. ARES/RACES forum. Youth forum. DX forums. Iris and Lloyd Colvin as featured speakers at the ARRL banquet.

IT'S FUN! Casino gambling. Horse racing. Dancing. Banquets. Shopping trips. Canoeing. Children's zoo. Professional singer-storyteller at evening campfire. Ronald McDonald

Fleamarket opens Friday at 12 noon. Vendor displays open Saturday at 9 a.m.

Travel Discounts: 1 (800) 333-4130
Rustic Camping: 1 (517) 792-6270
General Info: 1 (800) 444-997
Fleamarket Tables: 1 (517) 781-3274
FCC Licence Exams: 1 (517) 624-9094

"We guarantee that if you don't enjoy yourself, you didn't participate!"

-------✂-------

PLEASE REGISTER TODAY! Advance registration closes on August 16. Ticket requests received between July 5 and August 16 will be held for pickup at the convention.

Name: ____________________ Call: ____________

Address: ______________________________

City: ____________________ Zip/PC: ____________

Advance three-day admission tickets	______	@ $7 =	$ ______
ARRL banquet	______	@ $15 =	$ ______
Friday bus tour 1 (Flint auto plants)	______	@ $15 =	$ ______
Friday bus tour 2 (Petroglyphs)	______	@ $15 =	$ ______
Friday bus tour 3 (Cyclotron lab)	______	@ $15 =	$ ______
Friday tour 4 (Canoe trip)	______	@ $10 =	$ ______
Saturday bus tour 5 (Frankenmuth)	______	@ $15 =	$ ______
Saturday bus tour 6 (Outlet mall)	______	@ $15 =	$ ______
Saturday bus tour 7 (Antiques)	______	@ $15 =	$ ______
Fleamarket space (does not include admission)	______	@ $15 =	$ ______
Total enclosed			$ ______

ALL PRICES US FUNDS. Please make your cheque or money order payable to the 1991 ARRL Convention Committee. Mail to Convention Preregistration, Box 1783, Saginaw, MI 48605 USA.

1988, we worked out a band sharing agreement with Ontario Region DOC for the Atmospheric Environment Service (AES)wind profiler. Senior DOC officials in Toronto and Ottawa agreed to keep amateurs informed about *any* system that might be assigned to a frequency in the 430–450-MHz band, and to provide amateurs with an opportunity to discuss where to put such systems. The idea was that despite being secondary on 430–450 MHz, amateurs were not second-class. Unfortunately, DOC officials forgot and told amateurs about a Fisheries and Oceans 432.5-MHz SYLEDUS system only *after* they made the assignment. The system will operate on Lake Huron until October. While I don't think we will have problems with a 20-watt system operating only during the day, we might.

An interesting sidelight: Fisheries and Oceans borrowed the SYLEDUS gear from their people in Quebec. Apparently, they didn't know how to retune it and they had to send it to the manufacturer for retuning. Cost: $5000.

1296 MHz: Peter, VE3VD, Clarke, VE3WCB, and John, WA2BTW, continue to run nightly skeds on 23-cm SSB. John has upped his power to about 12 watts and Clarke says his signal is very readable. John is attempting to increase his DX range by running skeds with Steve, VE3SMA, in Cambridge.

VE3FAC has been building loop yagis. Richard plans an initial configuration of four and eventually eight in an 2 by 4-foot array. We welcome Bob, VE3FVW, to 1296 MHz. Bob uses with a loop yagi and transverter. Richard assisted in putting up Bob's second tower and antenna. Also welcome to VE3PIG in Stroud, Ontario (FN04). He's QRV on 1296 and looking for contacts. Finally, thanks to Clarke, VE3WCB, for increasing 23-cm activity in Ontario.

10 GHz: Tellurometers are springing up all over—good news for the 3-cm crowd. These ugly green boxes with 28-db dish antennas make a mean communications setup for FM voice or packet.

SOME THOUGHTS ON UNTAPPED DX POSSIBILITIES

Reading in the April 1991 *IEEE Transactions*, I found an interesting article on backscatter signals from a Russian satellite, essentially a 2-metre sphere called Cosmos 1427 which orbits the earth at an altitude of 420 km. This "bird", apparently a calibration satellite, was used by the US Defense Nuclear Agency (DNA) for radar studies on 155 and 422 MHz. It might make a good target for some high-powered Amateur Radio experiments on our VHF-UHF bands. Think about it. It might be possible to contact a station by tracking the satellite and reflecting a signals off it using meteor scatter or moonbounce techniques.

One wonders what could be done with some of the bigger items orbiting around up there. Any thoughts on this subject?

DAYTON

The Dayton Hamvention® was great again this year with a fantastic VHFer turn out. This can greatly be attributed to the interest sparked by the VHF Net run by Bryan, WA8MZQ, and Hal, KC4YO, 3.843 MHz each Monday night at 2100 EST/EDT. The function of this net is to get VHFers together to chat, and arrange skeds for contacts and new grid squares. Anyway, 60 keeners from all over met on the Friday evening for a great dinner. Everyone pitched in $5 which paid for the prizes: a Bird wattmeter and $75 cash. Canadians present included VE2ABM/3, VE3KDH, VE3OZB/W8, and VE3SCP—none of whom won a prize. Still, a great time was had by all—meeting one another, making friends and exchanging lies!

FM NEWS

The Toronto FM Communications Society (TFM) is re-establishing the old Uxbridge to Buffalo link. TFM is also looking at links to the IPARN Network. Let's hope that an AMSAT link is next and maybe a 23-cm linear translator and some propagation beacons.

NEW VHF GROUP FORMED

A new group, the Southern Ontario Society, has been formed in Dunnville to actively promote SSB and CW operation on the VHF-UHF-microwave bands. The group's call: you guessed it—VE3EMS! Contact Peter, VE3VD for details. ■

Sinclabs Specialty Products

- TRANSVERTERS for 144, 220 and 222 MHz
- 12 VOLT POWER SUPPLY
- 2-WAY and 4-WAY COAXIAL POWER DIVIDERS
- COAXIAL JUMPER CABLES
- WATER COOLING JACKETS
- VHF and UHF YAGIS
- HF, VHF and UHF MOBILE ANTENNAS and MOUNTS
- OMNIDIRECTIONAL VERTICAL ANTENNAS
- 50 ohm LOAD TERMINATIONS
- LIGHTNING PROTECTION PRODUCTS
- MOUNTING CLAMPS

CALL OR WRITE FOR OUR LATEST CATALOG

Sinclabs Inc., Specialty Products, 85 Mary Street,
Aurora, Ontario, Canada L4G 3G9
Phone: (416) 841-0624 Fax: (416) 841-6255

KENWOOD
ICOM
ALINCO
AEA
CUSHCRAFT
VIBROPLEX
BENCHER
ARRL

NORHAM
RADIO
SUPPLY
INC.

YAESU
TEN TEC
JRC
DAIWA
MFJ
KANTRONICS
UNADILLA
AND MORE!

FRIENDLY AND HELPFUL SALES STAFF !!

–EXPERIENCED ADVICE
–CUSTOMER SATISFACTION
–COMPETITIVE PRICING
–WIDE SELECTION

Whether you purchase a radio or just a connector from us, you will always be treated with quality service and backed with after-sales support.

Whether you require advice or are ready to purchase, you can always count on us.

AUTHORIZED DEALER AND SERVICE CENTRE

- **KENWOOD**
- **ICOM**
- **YAESU**
- **JRC**
- **ALINCO**
- **TEN TEC**
- **KANTRONICS**
- **AND OTHERS!**

Mail Order

NORHAM RADIO SUPPLY
4767 STEELS AVE. W.
NORTH, YORK, ONT.
M9L 2W1

Visit Our Retail Store

STORE HOURS:
TUES.: 10–8
WED.–FRI.: 10–6
SAT.: 10–3
CLOSED SUN. & MON.

Phone Orders

CALL DURING STORE HOURS:
(416) 745-1000
FAX 24 HOURS A DAY:
(416) 745-5651

We Trade

VISA

C.O.D.

Public Service/Service Public

Conducted By Bob Boyd, VE3SV
and Jack Strangleman, VE3GV

More on Detecting Tornados

In the course of editing our May column, a very important sentence was omitted. In using a TV set to detect tornadoes, the set should be turned to channel 2 only *after* the screen blackness has been set at channel 13. If you clipped the instructions, please destroy them and replace them with the following:

Using your television to detect tornados: (It is assumed that your set is connected to an outside antenna, not a CATV system). First, warm up the TV and tune it to channel 13. Darken the screen to almost black using the brightness control. Now turn to channel 2. Leave the volume down.

Your tornado detection device is now in operation. Lightning will produce momentary white bands of varying widths across your screen (colour sets produce coloured bands). A tornado within 15 to 20 miles will produce a totally white screen and remain white (colour on colour sets). Should this occur, turn off your TV set, take a portable radio and seek a place of shelter immediately.

This detection system works because every TV set has channel 2 at 55 MHz. Lightning and tornadoes generate a signal near this frequency—a signal which overrides the brightness control. Channel 13 is at the high end of the TV band and is not affected. That is why the brightness control must be set while on channel 13.

Using your radio: Use a portable radio for emergency instructions and in case of power failure. If the radio is tuned to 550 kHz, lightning will cause intermittent static. A tornado will cause steady, continuous static.

Most homes have these two warning devices. It might be well to clip these instructions and keep them on hand for the tornado season.

LOMA PRIETA EARTHQUAKE REVISITED

Once again we quote from *Worldradio* magazine's Public Service column. Russ Bankson, N6GWL, comments as follows:

"What is the Amateur Radio operator's role as a volunteer operating in an emergency? Amateurs provide communications for public service agencies when established communications are overloaded, damaged or entirely inoperative.

"When an emergency or disaster strikes a community, the Amateur Radio public service volunteer checks into pre-established nets to report conditions in his locality, and his capability and availability to help. If there is a need for Amateur Radio communications, he awaits directions. He may be asked to report to a city emergency office, the forestry service, amateur net control station, local fire department, Red Cross shelter, hospital or any other area where Amateur Radio communications are needed. When established communications facilities are once more operable, he merely monitors them and remains available to assist if needed.

"Responding to an assignment sometimes means more than showing up with a

Field Organization Reports
May 1991

CRRL Section Emergency Coordinator Reports

Reports were received from the following SECs (DECs and ECs reporting to SECs are listed in brackets) denoting a total ARES membership of 1124.

Reporting	ARES Members
VE3GV (VE3s GNW, LPM, MB, SV, TNL. WIM)	624
VE4JR	56
VE6AFO (VE6s AMM, CBH)	306
VE7FB	138

CRRL Section Traffic Manager Reports

Call	Orig	Rcvd	Sent	Dlvd	Total
VE1BTV	0	19	19	0	38
VE1DLC	0	10	3	7	20
VE1ALU	0	9	9	0	18
VE1YS	0	3	5	0	8
VE2GOP	0	53	58	0	111
VE2BP	4	16	12	16	48
VE2JN	0	11	0	11	22
VE2WH	0	4	4	4	12
VE2ALE	1	0	2	0	3
VE3ORN	2	67	49	22	140
VE3GNW	0	43	59	0	102
VE3BDM	0	76	11	0	87
VE3GSQ	0	56	31	0	87
VE3CYR	1	51	29	3	84
VE3GT	0	15	32	0	47
VE3AJN	0	22	23	0	45
VE3NVJ	1	14	21	2	38
VE3SB	0	11	13	2	26
VE3KCZ	1	9	5	5	20
VE3DBG	8	1	8	1	18
VE3LPM	0	4	9	1	14
VE3KXB	0	4	5	0	9
VE3BAJ	0	0	6	0	6
VE3FGU	0	3	2	1	6
VE3WV	0	1	4	0	5
VE4JA	20	130	150	40	340
VE4FP	0	50	59	5	114
VE4JR	0	20	10	4	34
VE4STU	5	10	15	2	32
VE4LB	0	20	7	0	27
VE4TE	0	20	6	0	26
VE5JNL	1	3	0	1	5
VE5KZ	1	3	3	0	7
VE6GIL	3	12	12	27	54
VE6RCE	10	10	10	10	40
VE6RCG	10	10	10	10	40
VE6AKY	4	4	4	4	16
VE6ABC	0	5	5	0	10
VE6AMM	0	2	2	2	6
VE7BNI	17	97	147	59	320
VE7EJU	0	70	67	4	141
VE7FAZ	0	53	54	0	107
VE7ANG	0	24	27	1	52
VE7BCL	0	17	8	5	30
VE7CCJ	3	15	9	1	28
VE7XA	0	7	12	4	23
VE7FB	2	9	6	3	20
VE7EGM	0	8	5	3	16
VE7OM	0	5	8	0	13
VE7ALV	0	9	0	4	13
VE7FME	0	12	1	0	13
VE7GKA	2	4	4	0	10
VE7FRZ	2	4	4	0	10
VE7VO	0	5	4	0	9
VE7BZI	1	3	1	3	6
VE7BCF	2	0	4	0	6
VE7DJ	0	2	1	0	3
VE7WI	0	1	1	0	2

National Traffic System

Net (Mgr)	Sess	QNI	QTC
APN (VE1YS)	31	116	77
KTN (VE3AJN)	14	100	12
OLN (VE3POJ)	29	620	43
OPN (VE3BDM)	31	530	119
OQN-D (VE3ORN)	28	70	23
OQN-E (VE3CYR)	27	85	70
OQN-L (VE3GSQ)	26	35	24
MEPN (VE4LB)	31	868	39
MMWX (VE4TE)	31	331	23
MTN (VE4IX)	16	130	54
SPN VE5CJ)	24	875	3
APSN (VE6AKY)	31	378	5
BCEN (VE7EJU)	31	785	226

Brass Pounders' League

This listing is available to amateurs who report to their SM a traffic total of 500 or a sum of originations and delivery points of 100 or more for any calendar month. All messages must be handled on amateur frequencies, using standard ARRL-CRRL form, within 48 hours of receipt.

BPL: None this month.

Public Service Honour Roll

(1991 Revision) This listing is available to amateurs whose public service performance during the month indicated qualifies for 70 or more points in the following eight categories (as reported to their SM). Please note maximum points for each category: (1) Checking into a public service net using any mode, 1 point each, maximum 60; (2) Acting as a Net Control Station (NCS) for a public service net using any mode, 3 points each time, maximum 24; (3) Performing assigned liaison between public service nets, 3 points each time, maximum 24; (4) delivering a formal message to a third party, 1 point each, no maximum; (5) Originating a formal message from a third party, 1 point each, no maximum; (6) Serving as a CRRL SM or field appointee, 10 points for each office or appointment, maximum 30; (7) Participating in a communications network for a public service event, 10 points each event, no maximum; and (8) Providing and maintaining an automated digital system that handles messages in standard ARRL-CRRL format, 30 points. Amateurs who qualify for Public Service Honour Roll 12 consecutive months, or 18 months out of a 24-month period, will be awarded a special certificate from CRRL Headquarters.

PSHR: VE4JA (126), VE3ORN (126), VE4LB (106),VE3BDM (97), VE3GNW (96), VE4STU (74), VE3CYR (69)

Service and Specialized Nets

Independent Net Managers: Your monthly reports are welcomed. Send to CRRL, Box 7009, Station E, London, ON N5Y 4J9.

Net (Mgr)	Sess	QNI	QTC
ARES Canada (VE3GV)	4	98	21
ARES Ontario (VE3GV)	1	3	0
Grey-Bruce (VE3BDM)	31	67	21
Grey-Bruce SS (VE3BDM)	30	73	37
Aurora-2 (VE4FP)	29	1110	0
ARES Saskatchewan (VE5FY)	5	153	4
Prairie WX (VE5EX)	31	580	0
ARES Alberta (VE6AKY)	8	169	5

handheld transceiver. The amateurs during the October 17, 1989 California earthquake had to install antennas, coaxial cables, lights for operating positions, and power supplies for mobile transceivers to use in base operations. They brought their own equipment and supplies, from battery-charging systems, tools and survival kits, to maps, phone numbers and writing materials. They personally paid for fuel and other items. Many of the locations were in operation around the clock for several days. These amateur operators demonstrated not only their professionalism and expertise, but their dedication to their role as public service volunteers.

"Within twenty minutes of the earthquake, amateurs had checked into the reporting nets and with Red Cross Amateur Radio stations.... The Red Cross needed the aid of ARES operators to activate shelters and provide food and clothing for thousands of people; store and transport donations of supplies; provide safe routes between cities and supply points; provide communications between leaders; create a resource net to assign and keep track of volunteers; provide communications between the Western Red Cross field office and other Red Cross chapters; and provide communications between other emergency aid agencies such as police, fire departments, hospitals, the Navy, the Air Force, the State Office of Emergency Service and damage evaluators.

"The following is a sampling of some of the communications traffic handled by ARES operators in the aftermath of this disaster which caused devastation in Watsonville, Santa Cruz, San Jose, Oakland and San Francisco:

"'Boots, socks and rain gear needed—who can supply?... 22000 pounds of fresh fruit and vegetables—who can use now?... People-finding dog teams are coming... Man with infrared people-finder arrived from New York—report where?... Need canned food, cots and tents... Nurse's thermometer is broken and needs replacement... Helicopter is loaded for Santa Cruz—where to land?... Need prescription filled—drug store is closed... Hard hats are needed... Shelter is closing—moving where?... Amateurs near Cypress disaster must have dust masks... Amateurs coming from over 200 miles with self-contained units... 1500 homes in Oakland are damaged... Several convoys of trucks are going to Santa Cruz from the Bay area... More amateurs are needed—some have been working around the clock... What are the communication paths being used?... Message from a Virgin Islands Red Cross worker: "I want to come home"... Supply truck is missing for fourteen hours—report if found... Operator needed for the blood bank... Hospital needs communications path to blood bank... two Red Cross backup power generators will not start... Need more shelter managers for replacement... Jim Stone, Fremont City official, manning a shelter... Oakland disaster control wants amateur service... Cellular telephones being sent to Watsonville and Santa Cruz... Fresno is sending supplies to Watsonville....'

"This is just a small sample of the thousands of messages handled by the Amateur Radio emergency nets."

EMERGENCY COMMUNICATIONS IN CLEARWATER, BC

Ruth Davison, VE7EJI, is Deputy Area Coordinator with the BC Provincial Emergency Program (PEP). She covers the North Thompson area:

"I own and operate a telephone answering service in Clearwater, a small town (population 2500), 75 miles north of Kamloops. Since I provide service to many of the response agencies in the area, I can, using radio, collaborate with amateurs at the scene.

"One case we dealt with recently was related to personnel employed by the Ministry of Forests. Two men had failed to check in within the allotted time. The Ministry of Forests duty officer that night was Gwen Waugh, VE7EKL, who kept in contact with me on our two-metre repeater. The men had suffered an accident on a logging road and had to walk out to the highway, where they got a ride to Blue River. They phoned me from there. Using Amateur Radio, we were able to contact the group that was searching for them to tell them that the men were safe. The Ministry of Forests has a good repeater system, but at that time it was out of service. We received a letter of thanks for our assistance.

"The second case occurred last January when we had an occasion to assist the RCMP. They had responded to a double fatal accident north of Clearwater, but their repeater system did not have adequate coverage. Art Davison, VE7EJH, a member of our PEP rescue unit, had his two-metre handheld with him and was able to relay information from the scene, through me, back to detachment headquarters. The RCMP was most grateful for our assistance.

"We also provide communications for the Search and Rescue Group which has its own equipment on its own frequency, but no repeater. Their searches are very often in remote mountain areas, and they often are unable to communicate without our assistance. Our club also provides communications for the annual Ski Loppet, the hundred-mile Mountain Bike Race and various car races. This year we will also provide communications for the International Luge competitions in Blue River. Not a bad record for a club of only nine members!" —*Bob Boyd, VE3SV* ■

Consider the Benefits...

...And Join CRRL Today!

Consider the ***benefits*** *and join* ***CRRL*** *today! You'll receive* ***QST Canada*** *and* ***QST*** *(either or both) monthly journals, and* ***free CRRL Outgoing QSL Service.*** *Your membership supports many important services to Canadian Amateur Radio:* ***representation to DOC*** *and other government agencies,* ***representation to IARU*** *(so important as we prepare for WARC-92), the Field Organization (****NTS, ARES, OBS****) for public service, the* ***incoming QSL bureau system,*** *and much, much more.*

Count me in! *Here's my application for* ***CRRL membership!***		Cost	7% GST
☐ Basic **CRRL membership**: ____	years at $15 per year:	________	none
☐ **QST Canada** monthly journal: ____	years at an additional $12 per year:	________	________
☐ ARRL's **QST** monthly journal: ____	years at an additional $31 per year:	________	________
Total amount enclosed (add cost of membership, monthly journals and any GST):		____________	

Name: ______________________________ Call: ______________

Address: ____

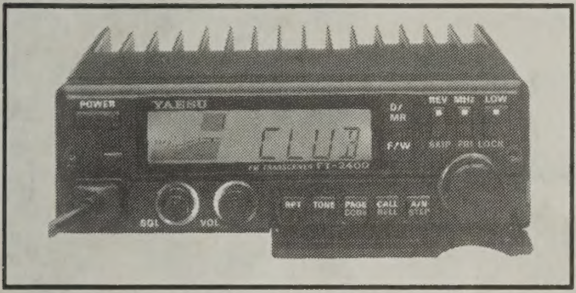
______________________________ Postal Code: ______________

Please enclose full payment. ***Thank you for your support!***

The Canadian Radio Relay League, Inc.
Box 56, Arva, ON N0M 1C0

Summer Sizzlers!

Introducing the new YAESU FT-2400H VHF Mobile



☐ **Rugged commercial grade construction**
☐ **31 full-function memories**
☐ **38-tone CTCSS encoder**
☐ **DTMF paging (optional)**
☐ ***FT-2400H only $459!***

The new YAESU FT-2400H is setting the standard in mobile VHF transceivers. It combines an unprecedented range of features with rugged military-grade construction to give you a radio that can do almost anything in almost any environment.

The compartmentalized one-piece diecast chassis/heatsink enables a full 50 watts output without forced-air cooling and the double-sided glass circuit boards have chip-mounted components for maximum reliability.

Features include an automatic-intensity backlit LC display, thirty-one freely tunable memories with 4-character alphanumeric addressing capability and complete programming and scanning functions, a thirty-eight tone programmable CTCSS encoder (FTS-17A decoder with paging bell optional - $68.95), optional DTMF selective calling and private paging capabilities (FRC-6 - $44.50), 7 DTMF memories, and much more!

Comes with MH-27A8J DTMF microphone.

Special Price on AEA Isopoles!

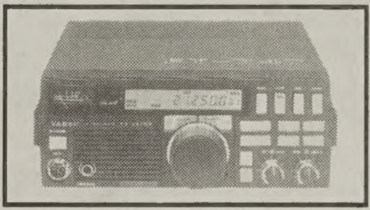
ISO-144 only $69!

If 2-meter base operation is in your plans this summer, you can't go wrong with the ever-popular AEA IsoPole, and we are now offering the VHF version at the super price of $69!

The cones deliver greater efficiency over obsolete radials, maximum obtainable gain for the antenna size, exceptional decoupling, and less feedline pickup of computer hash noise than any equivalent antenna!

Built to withstand the environment, the IsoPole will give you many years of top performance!
(10' x 1.25" mast not included)

YAESU FT-747GX Sale!



FT-747GX only $799!

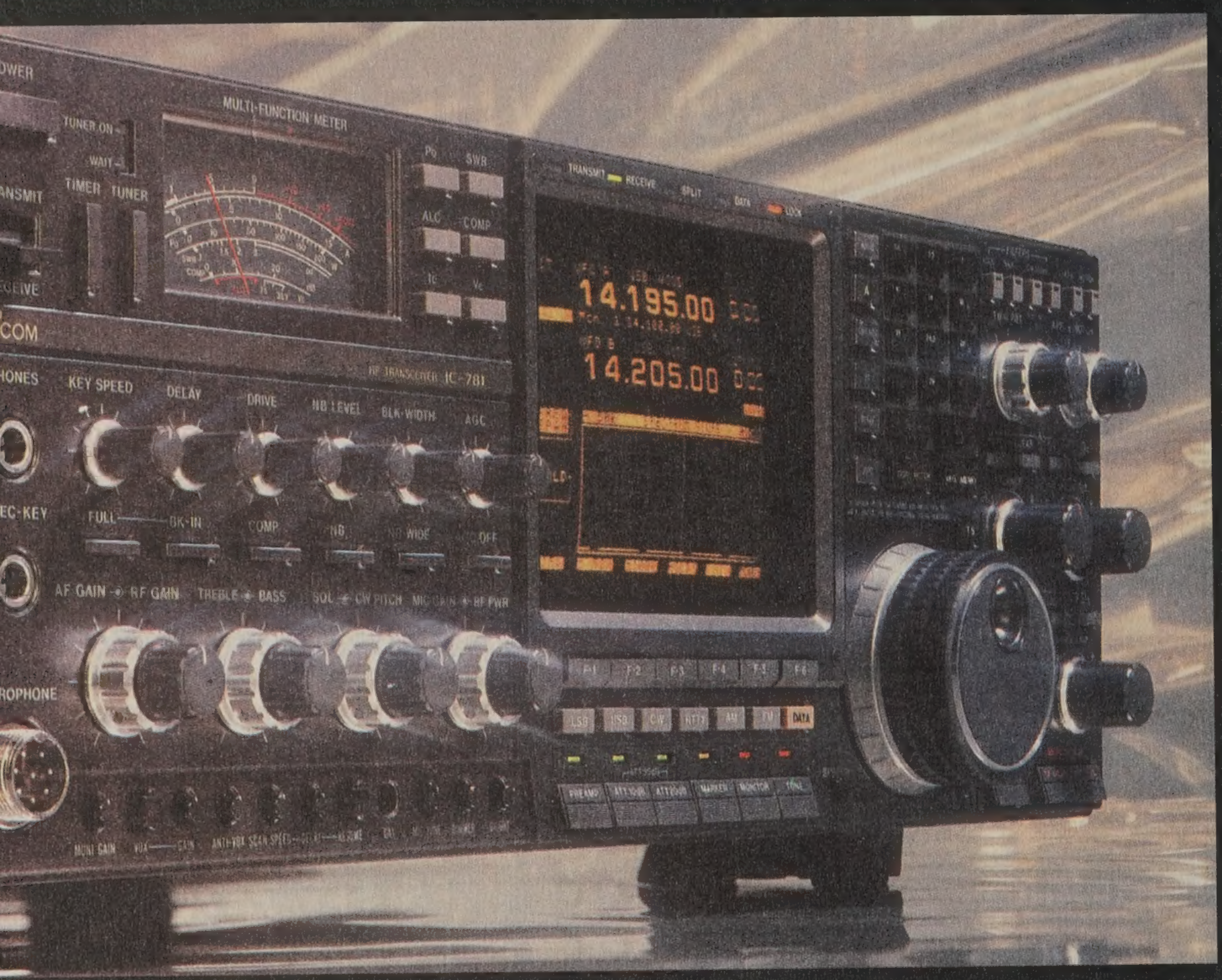
This is an excellent first HF rig, providing features and performance usually found only in more expensive models. Includes a 100 watt transmitter, general coverage receiver, dual A/B VFOs, twenty memory channels (18 with split frequency capability), AM wide and CW narrow filters, and more -- call us!

C W Com-West
Radio Systems Ltd.

8179 Main Street
Vancouver, B.C V5X 3L2

Fax (604) 321-6560
(604) 321-1833

THE LAST WORD IN PERFORMANCE



THE ICOM
IC-781
HF TRANSCEIVER

Nothing compares to the captivating experience of operating the finest transceiver on the market, the IC-781. The exhilaration of operating the IC-781 is matched only by the luxury of its crystal clear communications.

Designed for rigorous operation, the IC-781 is the result of extreme dedication, exceptional craftmanship and precision engineering. The IC-781 fuses the perfect blend of features such as driving power, incredible clarity, a Multi-Function CRT Display, Spectrum Scope and Icom's exclusive DDS System to achieve unbeatable HF operation worldwide.

Whether you aspire to DX, contest or enjoy legendary performance, the IC-781 inspires countless hours of devoted attention. Backed by a service commitment second to none, four factory service centers and a one-year factory warranty, the IC-781 characterizes Icom's dedication to excellence.

For full details call the Icom Brochure Hotline at 1-800-999-9877.

CORPORATE HEADQUARTERS:
ICOM America, Inc., 2380-116th Ave. N.E., Bellevue, WA 98004
CUSTOMER SERVICE HOTLINE (206) 454-7619
CUSTOMER SERVICE CENTERS: 3150 Premier Drive, Suite 126, Irving, TX 75063
1777 Phoenix Parkway, Suite 201, Atlanta, GA 30349
3071 - #5 Road, Unit 9, Richmond, B.C. V6X 2T4 Canada
2380-116th Ave. N.E., Bellevue, WA 98004

All stated specifications are subject to change without notice or obligation. All ICOM radios significantly exceed FCC regulations limiting spurious emissions. 7811190

ICOM
First In Communications